

AMERICAN NURSERYMAN

The Nurseryman's Forte: To Make America More Beautiful and Fruitful



MAY 1, 1938



Malus Sargentii in Foreground
Malus Sieboldii in Background

Dwarf Fruit Trees
Plants for Wall Gardens
Treat Cuttings with Acid
Highway Planting Costs

AMERICAN NURSERYMAN

Chief Exponent of the Nursery Trade

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KILL "GREEN RIVER" LAWS.

Three high court decisions have been rendered in recent weeks in regard to the so-called "Green River" ordinance, which prohibits the employment of house-to-house canvassers by firms outside the municipality.

At Tallahassee, the Supreme Court of Florida, in a decision handed down April 6 found the Green River ordinance unconstitutional in the case of a brush salesman who had been arrested by police of New Smyrna Beach. The action invalidates the prohibitory ordinance in all towns and cities in that state, and follows similar action by the highest courts of South Carolina and Maryland.

During the same week, the United States Supreme court rendered a unanimous decision in another case involving local ordinances that prohibit home-to-home distribution of printed material. The court upheld the freedom of citizens to print and distribute published matter, pointing out that any local legislation denying this right is unconstitutional under articles guaranteeing the United States a free press. The Green River ordinance has been applied to some localities to deny newspapers the right of soliciting subscriptions. The effect of the United States Supreme court decision is to pull the teeth of all Green River ordinances, for the house-to-house salesman is guaranteed the privilege of calling to present printed or published matter offering his wares and services.

The Mirror of the Trade

The decisions in Florida, Maryland and South Carolina are offset only by the finding of the Wyoming Supreme court, which upheld the right of the town of Green River to prohibit canvassing "except by invitation."

This decision was carried to the United States Supreme court, which found no federal question involved and remanded the matter to the individual states, but which in its latest decision upholds the right of an individual to carry printed matter from house to house, whether invited to do so or not.

At the same time, Judge R. W. Higgins, of the District Court of Pittsburgh county, Oklahoma, found the Green River ordinance unconstitutional, and said: "The court finds that the occupation of soliciting orders from house to house is a lawful one when conducted in a proper manner, that the said ordinance does not attempt to differentiate between salesmen who conduct themselves properly and those who do not, but simply and boldly declares a lawful occupation to be a nuisance and the court finds said ordinance is unreasonable, unconstitutional and void."

CHECK MAILING LISTS.

Considerable expense in printing and postage could be saved by many nurserymen if at least an annual revision were made of the mailing list, if it cannot be given constant supervision. The usual practice seems to be to add names whenever possible, so as to be sure of reaching everybody who may be a prospective buyer. Less attention is given to the removal of duplicate names and the elimination of those no longer prospects. Some striking examples of wasted catalogues have been seen, and here is another, related in a letter from Peter Cassinelli, Glendale, O.:

Three years ago, after the dissolution of Cassinelli-Brumme, Inc., we moved our office from 1507 Dana avenue, Cincinnati, to our nursery at Glendale, O. We received as many as five catalogues from some nurseries addressed as follows: Peter Cassinelli, 1507 Dana avenue, Cincinnati, O. Glendale Nurseries, 1507 Dana avenue, Cincinnati. Cassinelli-Brumme, 1507 Dana avenue, Cincinnati. Peter Cassinelli, Glendale, O. Glendale Nurseries, Glendale, O.

We sent out post cards informing them of our change of address without any results, so thought if you would insert in your magazine that our mailing address is Peter Cassinelli, Glendale, O., it would save the nurserymen quite a bit. We are always glad to receive catalogues, but the extra copies could be sent to someone else.

MALUS SARGENTI.

The prevalence of much untrue stock of *Malus Sargentii* in the trade has prompted the reproduction of the photograph found on the front cover, which shows the true shrubby Sargent crab in the foreground in contrast with the tree form (*arborescens*) of *Malus Sieboldii*, the Toringo crab, at the back. Sargentii in its true form is a low, spreading, somewhat spiny, much-branched shrub. It rarely exceeds six feet and is sometimes seen no more than three to five feet high.

The flowers are white and produced in great abundance, individual blooms measuring about an inch across. A bulletin of the Arnold Arboretum gives an interesting description of this dwarf crab: "The pigmy of the crab apple family is *M. Sargentii*, with umbellate clusters of saucer-shape flowers of the purest white, in which nestle a tiny group of stamens tipped with clear yellow anthers. It is a low, densely branched shrub which hugs the ground and is preëminently suited for planting on banks. The fruit is wine red, covered with a slight bloom, and long persistent."

In fact, many persons cherish the Sargent crab solely for its abundant decorative bright red fruits, which mature in September in clusters of five to six and often remain until spring, provided the birds do not devour them before. Sargentii is hardy in all but the severest sections of the United States.

If seeds from the true stock are obtainable, they can be used for propagation. An after-ripening period is required, so that they should be stratified over winter or stored in moist sand and peat at a temperature of 40 to 45 degrees for seventy-five to ninety days. A temperature range of 32 to 50 degrees is considered effective.

Whip grafting on apple seedling roots in midwinter is probably the most dependable way to obtain true-to-name stock.

With its pigmy growth, the Sargent crab is well suited for large rockeries or as a background shrub for smaller ones. It lends itself well, too, as a backing for flower borders, and it can be used effectively in foundation plantings, providing variety, color and interest at all seasons.

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*The Nurseryman's Forte:
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No. 9

Dwarf Fruit Trees

*Smaller Trees for Commercial Orchardists and Home Garden Obtained by Use of
Newer Root Stocks—By H. B. Tukey, New York Agricultural Experiment Station*

In horticultural usage, a dwarf fruit tree is a fruit tree grown upon a root stock which tends to dwarf the tree. But there are other means by which a tree may be dwarfed. Pruning the top regularly and severely is a well known means of bringing about a dwarf condition, well appreciated on the continent of Europe, where trees are carefully groomed and pruned to particular forms and purposes. Also, pruning of the roots or restricting their spread or absorptive ability is a dwarfing practice, as the growing of trees in pots, drums or sunken rims which confine the roots. Again, withholding nutrients and moisture may produce a dwarf condition, as the miniature "bonsai" and "hachiuwe" of the Japanese, for which they are famous, and including not only fruit trees but various ornamentals and forest trees as well.

But the dwarf tree which attracts attention today is one produced by growing upon a dwarfing root stock. What are these root stocks? Whence do they come? Dwarf root stocks are by no means modern innovations. They have been used in Europe for centuries, some for upwards of three centuries. Both on the continent and in England they have been used widely, not alone for the production of garden plants and trees trained to special forms, but also for the production of fruit in commercial areas.

In America they have been of recurrent interest for over a century. A review of horticultural literature shows a revival of interest at more or less regular intervals for one reason or another.

For the stone fruits, dwarfing root

stocks are generally unsatisfactory, though for that matter there has been no great clamor for a root stock with which to dwarf them; in part, because the trees are already small enough. For the peach, various root stocks have been tried, as *Prunus Davidiana*, *P. Mume*, and several plums, but in general the results are unsatisfactory. For the cherry, *P. Mahaleb* is the accepted dwarf root, yet any who have followed the controversies about Mazzard and Mahaleb know that in most circles it is not grown with the idea of producing a dwarf condition. Possibilities lie with *P. Besseyi*, however, and some of the native species. For the European plums, some of the insititia plums have been used, notably the St. Julien root stock, but here again the results are not all that could be wanted and, further, interest is at present lacking.

The pear and the apple, however, present a different picture. For both of these classes of fruits there are root stocks which produce a decidedly dwarfing effect and of varying degrees.

The quince is the common material upon which to dwarf the pear. Any quince may be used, but the Angers quince has been found most desirable, judged from many angles. Although the pear is commonly grown on the quince in Europe, so much so that some European pear growers are surprised to learn that commercial orchards in America are entirely upon pear roots, the practice is rarely met with in America. The field offers definite possibilities for improved dwarf root stocks for pears, particularly since the recent selection

of a number of strains of quince root stocks which have been found to vary in their effect upon the plant. But tenderness to winter cold, the ravages of fire blight and the relatively lowly position into which the pear has fallen in eastern fruit circles limit the immediate importance of the problem.

As for the apple, various dwarfing stocks have been used, all of Old World origin, and of the same species as the material worked upon it. Roughly, they have been divided into the very dwarfing forms, called Paradise, and the semidwarfing forms, called Doucin, but the designation is by no means accurate and has led to much confusion. It is of passing interest that Paradise is derived from Pommier de Paradis of the French and refers to the forbidden fruit of the Garden of Eden. Doucin is derived from the French word "douceur" meaning "sweetness." Both terms refer to the type of fruit which the plants used as root stocks produce if not grafted with some other sort.

As one reviews the experiences of the past in America one is forced to admit that dwarf root stocks have not given a good account of themselves. The investigations with dwarf root stocks for the apple just at the turn of the century in New York state give a good summary of the recurrent interest in dwarf trees—the rise, the trial and the demise.

Interest in dwarf apples was aroused at that time by the severity of San José scale, an insect pest about whose control there were then some misgivings. It was thought that fumigation of the trees offered the best

possibilities for control, and since such a practice meant the covering of the tree, attention was immediately focused upon the dwarf tree.

In 1901 at the urgency of the fruit growers' organizations of New York state, the New York state agricultural experiment station, at Geneva, undertook a study of dwarf apples. Plantings were made in 1903 and 1904, one orchard at Kinderhook, Columbia county, in the Hudson valley; one at Fayetteville, Onondaga county, in central New York, and one at Carlton, Orleans county, in western New York, representing 1,193 trees and twenty-seven varieties—114 on French Crab, 424 on Doucin and 655 on Paradise.

By the fall of 1914 the conclusion was that "dwarf apples should not be planted in commercial plantations." The complaint was made that dwarf trees broke off, blew over, were subject to winter injury, suckered and were shallow rooted. Yet it must be noted in evaluating the results that interest in dwarf trees was by this time on the wane, and large-scale commercial operations were on the upswing. Further, this comment, pointing into the future, catches the eye: "There is a possible

future for dwarf fruits in commercial plantations, when the refinements of horticulture have been carried far enough to show the special adaptations of the several fruits to different stocks and when the care of dwarf trees is better understood."

With this generally unsatisfactory background, why discuss dwarf trees further? Because for some reason or another interest in root stocks for fruit trees has in recent years been rolling up from all sides and clamors for attention. The dwarf root stock is only one of the angles to the entire root stock problem, but it is as loud as any in its demands.

No doubt a great share of this interest in root stocks arises from the fact that as one after another of the various limiting factors in fruit production are met and conquered, another rises to take its place. Insects and diseases are now under at least a semblance of commercial control; pollination, fertilizers, cultural practices, transportation, storage and handling are all fairly well understood. There are those who feel that the root stock is the next problem to demand attention. The south desires a nematode-resistant pear root, the plain states ask a hardy apple

root, the Appalachian mountains desire a root-rot resistant apple, and the northeast desires a smaller tree.

The interest in a small tree is apparently not new. One need only read some of the literature prepared by entomologists and pathologists to find standard recommendations for pruning fruit trees, as, for example, the lopping off of pear trees at a height of fourteen feet! In other words, the horticulturist has been behind the times in not sensing this need and in permitting a situation to arise in which horticultural recommendations come from entomologists and pathologists.

A grower writes recently, "There is no money in big trees. I will leave them for the other fellow. I want bush trees." Questions submitted by growers to the question box at the 1938 meeting of the New York State Horticultural Society indicate clearly the tone of thought.

With a total of eighty-five acres of orchard land, I am convinced that trees between bearing age and about 20 years old are by far the most profitable, even though the yields per acre thereafter may be higher and the trees in good vigor and well cared for. Do many growers feel this way?

I am getting sick and tired of growing large fruit trees. What is the solution?

Have any growers had success with dwarf trees?

Another grower writes, "I have the financial ability and, I think, the courage to make a planting of 10,000 semidwarf trees, if you will tell me the root stock."

Further, the economics of the situation are plainly in favor of a smaller tree. In these days of more rapid change in market demands, in consumer varietal preference and in new varieties, the arguments are all in favor of some system which will give a more rapid adjustment in the orchard to meet these conditions. Smaller trees mean more trees per acre, earlier bearing age, larger volume per acre of the new variety in early years, maximum production for a few years, and then removal of the orchard to be replaced by something else. One need only recall the rise of important fruit-producing areas to realize that they made their reputations with young trees. As soon as the plantings became older, the section waned, and some other and younger competing section took its place.

Besides these arguments there are those of easier and more efficient



Five-year-old Baldwin on Paradise Roots (Malling IX).

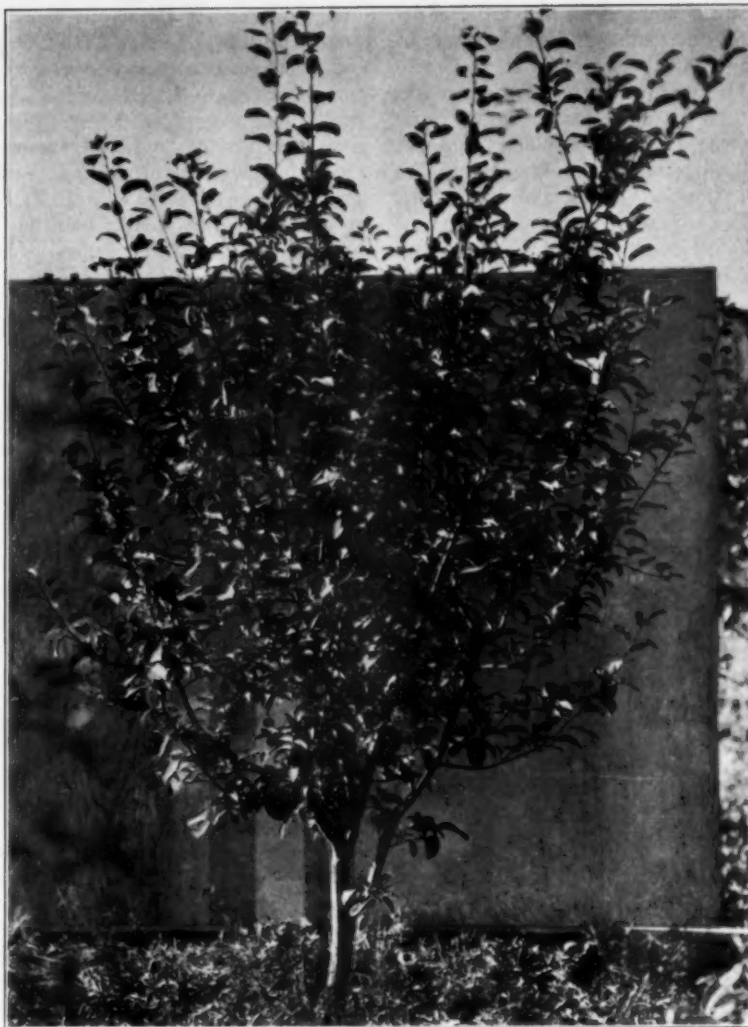
The type which gave a poor record of performance in commercial orchards a generation ago and which is adapted to garden planting.

spraying, thinning, pruning and harvesting. Further, in these days of tree-ripened fruit and the growing importance of harvesting fruit when it is properly matured, "spot picking" is an important consideration made simpler by small trees.

The interest, therefore, is not so much in the garden tree, as in the semidwarf, or semistandard tree. Yet there is some interest among amateur gardeners and the small home owner for a very dwarf plant—one that will grow no taller than a man and which will bear fruit the first year it is planted. Further, espalier and trained trees are attracting some attention. Is not a small fruit tree an attractive ornamental? The bloom is often enough in itself to satisfy the planter. Add to this a few developing fruits, finally ripening and coloring before his eyes, and the owner is well pleased. Modern hand sprayers will give good insect and disease control. But the use of a dwarf tree as a garden plant is a subject worthy of full treatment by itself.

What are the possibilities of securing the dwarf and semidwarf trees that are sought? Fortunately, there is a definite promise, although only through trial will their real value be decided, and this promise lies in the new "old" root stocks, of Old World origin, which are now receiving attention in this country. They are new in the sense that some have never been given a trial in America. They are old in the sense that some of them are nearly 100 years old and have been known in European fruit circles for generations.

Credit for a revival of interest in these dwarfing stocks must be given to Dr. R. G. Hatton and his associates at the East Malling research station, in England. He observed that the dwarfing stocks were badly mixed and that there were several types of plants masquerading under the name of Doucin and of Paradise. These he separated into pure lines or clones. It is something as though all apple varieties had been jumbled together into the two classes "red apples" and "green apples," and then as though somebody had separated the red apples and the green apples into varieties, separating out the McIntosh as McIntosh, the Northern Spy as Northern Spy, the Rhode Island Greening as Rhode Island Greening, and so on. It sounds like a simple and obvious



Five-year-old McIntosh on Malling I Root Stock.

Showing vigorous growth, quite unlike the very dwarf trees previously seen in America.

sort of thing, but, like many other important steps, its very simplicity may have been why it was overlooked for so long.

At all events, from various sources Dr. Hatton selected out sixteen types of root stocks for the apple, propagated them and worked various varieties of apples upon them. These root stocks he numbered, the designation "Malling" usually being placed with the number to further identify them, as "Malling IX." Most interestingly, the performance of varieties on these stocks varied appreciably. Some root stocks were extremely dwarfing, some were slightly less dwarfing, some were still less dwarfing, and some were not dwarfing at all. In a general way he grouped these stocks into (a) very dwarfing, (b) semidwarfing, (c) vigorous and (d) very vigorous.

In the very dwarfing class is to be found the Paradise (Malling VIII and IX) of American usage, while in the semidwarfing class is the Doucin (mixed Malling II) used in America. The others are new to this country. In other words, of the sixteen root stocks now available, only two or three have been given a thorough trial in America. And of these, Malling VIII and Malling IX (Jaune de Metz) are the most dwarfing apple root stocks available, and entirely unsuited to present-day extensive orchard operations, while the other, mixed Malling II (Doucin), has possibilities under the right conditions, but is too exacting for general extensive "rough and tumble" cultural methods. To condemn all dwarfing root stocks on the basis of the performance of these few, therefore, is

scarcely fair. And, if a still less degree of dwarfing is desired, neither of these three will provide it.

It is to some of the other root stocks on the list that attention is now being given. How will Malling I and IV, classed as vigorous in England, behave in America? Will Malling XII, XIII, XVI or some other produce the slightly dwarfed tree that northeastern orchardists would like?

Following is a list of these root stocks with a few notes as to their principal characteristics:

- A—Very dwarfing:
 - IX—Jaune de Metz.
 - VIII—French Paradise.
- B—Semidwarfing:
 - II—Doucin, often called English Paradise (may eventually be shifted to Class C).
 - III—A rogue of II.
 - V—Doucin Ameliore, also called Improved Doucin.
- C—Vigorous:
 - I—Broad-leaved English Paradise (of Rivers).
 - IV—Holstein Doucin, also called Dutch Doucin (may eventually be shifted to Class B).
 - VI—Nonsuch Paradise (of Rivers), also called Rivers' Paradise.
 - VII—(May eventually be shifted to Class B).
 - X.
 - XI.
- D—Very vigorous:

XII.	XV.
XIII.	XVI.
XIV.	

Preliminary trials hold some promise. Reports from England have been good. Those from Canada are promising, and trees on these root stocks at Geneva, N. Y., have done better than the old-type dwarf trees.

To be sure, Malling IX produces just as dwarf and just as fragile a tree as the Paradise roots used in trials a generation ago, and would be just as severely condemned now as then, except for the amateur gardener or the man who desires a very small tree. For him, this is the ideal and thoroughly satisfactory stock. At Geneva, trees on this stock usually bear fruit the first year set, and always the second year. Likewise, Malling II offers a type of tree similar to Doucin, but more uniform and more vigorous.

But now come the newer stocks. Malling IV and VII are classed as vigorous stocks, yet performance records show that they are close to semidwarfs and may be the ideal semidwarfing stocks of the future. Malling I, too, is called a vigorous root stock, but it produces a somewhat dwarfed tree in the orchard.

As for the very vigorous types, namely, Malling XII, XIII, XIV, XV and XVI, most attention focuses at present around XII, XIII and XVI. And these, too, show different degrees of vigor. Malling XVI, for example, in early tests produces a very large, vigorous tree. Malling XIII produces a slightly smaller tree, and Malling XII one still smaller. As the trees come into bearing, there is some indication that trees on Malling XII may go ahead of Malling XIII. The important point, however, is that here are root stocks with many different degrees of dwarfing, which is exactly what fruit growers are interested in.

The problem now is adequately to test these stocks in as many different places as possible with as many different varieties as possible, and as quickly as possible. Trial seems the only sure way, because one variety may make a much smaller tree than another—both on the same root stock. For this reason, too, there is no great hurry about venturing with dwarf trees. It will be time enough when the performance of a variety on a given root stock has been proved.

Yet it is encouraging to know that there is some hope for finding the answer to the slightly smaller tree desired by fruit growers, and it is worth while to keep in touch with the possibilities as they are slowly revealed by each succeeding year of trial.

FRUIT SITUATION.

Fruit and nut trees came through the winter with little or no injury, according to reports received by the bureau of agricultural economics on fruit prospects for 1938. Soil moisture conditions are generally good, and the mild temperatures which prevailed in most important producing states during February and March have promoted early development of buds and blossoms.

The subfreezing temperatures which occurred in many sections during the first part of April affected the prospects for some fruits and probably resulted in a certain amount of injury in some sections. But it is yet too early to determine the damage. Damage to apples apparently has not been serious. Peaches showed a heavy bloom in most areas, but the crop probably sustained some loss. Pear trees were

reported to be in good condition on April 1. Present prospects for 1938-39 citrus crops appear favorable.

FROST HITS FRUIT ABROAD.

Severe frost damage to fruit crops in England and on the continent of Europe as far south as the Italian Tyrol undoubtedly will result in a substantial reduction in supplies of fruits grown there and an increase in the demand for imported supplies.

Crops in England were especially hard hit. In that country the frosts began on April 10 and ran through the entire week. Heavy loss to all fruit crops is reported. Plums were wiped out entirely; cherries were killed to the extent of seventy-five per cent, apples and pears over fifty per cent, and all bush fruit and strawberries were practically wiped out.

On the continent, fruit crop damage was reported all the way from northern Europe to the Italian Tyrol in the south. In Switzerland the frost was said to be the worst in eighty years. Swiss fruit crops were entirely wiped out. Details for the other producing countries on the continent are not available, but the weather continues cold and further frosts are anticipated.

The United Kingdom has always been the most important export market for American apples and pears. The damage to soft fruit crops there should result in an early clean-up of supplies of Australian and New Zealand apples and in considerably advancing the season of demand for American apples and pears.

The damage to apple and pear crops in such important surplus producing areas as Switzerland and the Italian Tyrol should materially improve market prospects for American fruit in continental countries this season, reports the bureau of agricultural economics of the United States Department of Agriculture.

ELLIOTTIA racemosa, a rare American shrub or small tree indigenous to a restricted area of eastern and southern Georgia, is the subject of six pages of notes, with illustration, in the April 22 bulletin of popular information issued by the Arnold Arboretum. The notes are by William A. Knight, of the Biltmore forest, Biltmore, N. C.

Plants for Wall Gardens

*Second of a Series of Articles on the Better Subjects for Garden
Feature Now Attracting Public Interest—By C. W. Wood*

The globe daisies, which are not daisies at all in the accepted sense of that term, but belong to a distinct family; few in number and limited in range, supply some really good material for wall planting. In fact, all the species that I have grown, numbering nine or ten, are splendid plants to adorn sunny walls, though most require a little more moisture than such situations are generally capable of supplying. It is true that they all want well drained situations and will give a poor account of themselves in the moist, heavy ground which is often recommended for them, but we must remember that a sunny wall often becomes quite dry during the hot summers of eastern North America, and we must make provision to supply water by artificial means if we use plants like *Globularia cordifolia*, *incanescens*, *spinosa* and *stygia*. Nevertheless, the ones named, together with *G. nana*, *trichosantha* and *vulgaris*, should have the attention of growers of wall plants. Their beauty is found not only in their tufts of evergreen foliage, but in their globes of blue flowers, which carry a hint of gray, a combination not often seen in a flower and one that is pleasing in garden schemes. All the ones mentioned are perhaps best grown from seeds and are easy to handle under ordinary nursery conditions. I have purposely left *G. bellidifolia* for a last special mention because, to my mind, it is easily the best of the lot for either wall planting or to clothe dry sunny slopes in the rock garden, requiring no special attention and spreading its beautiful carpet of shining emerald over wide areas. It has been accused of being a shy bloomer, and its action in my garden has lived up to that reputation. But one does not naturally expect perfection in any plant, and this one is so lovely in foliage and so willing in disposition I can forgive its being sparing of bloom. It may be grown from seeds, of course, but propagation from cuttings, which are abundantly produced and root readily at almost any season of the year, is to be preferred. It may be well to add

that the plant here referred to is not the *G. bellidifolia* which is made a synonym of *G. spinosa* in the Standard Cyclopedia of Horticulture. In that work the latter is said to get a foot or more high, though plants that I have grown from seeds collected in Spain as *G. spinosa* did not exceed half that. Anyway, the *G. bellidifolia* that is in European trade under that name and the one to which I refer makes a perfectly prostrate mat of foliage, and the flower stems are not over two inches tall.

Gypsophila.

In wall plants the genus *gypsophila* contains three or four splendid items for the casual gardener who expects a plant to take care of itself after he puts it in place and a few others for the careful gardener. Of the former, *G. repens* is a well known example which needs no further comment. We should not stop there, however, for in *G. transsylvanica* from eastern Europe, which is called *Banffia petraea* by some, we have a plant that is as easily grown and rewards us with a profusion of blush pink flowers in May and early June, the entire plant not over three inches high. The plant which is usually seen as *G. fratisensis* is little more than a pinkish-flowered form of *G. repens*, but, even so, it is worth while because of the pink note it strikes, abundantly in late May and June and more sparingly from then until autumn, while true *fratisensis* never flowered for me except at the flush season in late spring. I have not had *G. curvifolia*, but a friend who has grown it three or four years tells me it is a good wall plant, being hardy and willing, with low, tight mats of grayish, curved leaves and sprays of pale pink flowers during the summer, all on plants not over three inches high.

Going on to the kinds for the more careful gardener, we come to *G. aretioides*, well named because of the resemblance its tight little wads of leaves have to the *aretia* androsaces, and well liked by those who have grown it because of the beauty

it supplies for a little care. The compact tufts are sufficiently ornamental in themselves to warrant the culture of this plant, but when they are studded all over with pearly white flowers from June until September, plant stem and flower being scarcely an inch high, they are really worth the effort to keep them going. That effort calls for sharp drainage, a not too rich soil and a little added moisture to keep them in good condition during long, dry periods. Variety *caucasica* is spoken of as being even smaller than the type, making "tight scabs of gray green and forming iron-hard domes." Both the type and the variety are rare in cultivation, seeds, the preferred means of propagation, being hard to find, but it will surely pay growers to make the effort to find them.

The other species for the careful gardener that I want to mention, *G. cerastioides*, a Himalayan plant, makes an entirely different growth, being a low, sprawling mass instead of the tight wads of the other. The mats are made up of hairy leaves, which support a vast number of large, white flowers with deep pink veins for close to three months, commencing in May, the entire plant being not over two or three inches high. It requires essentially the same treatment as the next preceding.

The new double-flowering pink *gypsophilas*, *G. repens* Bodgeri, *G. Bodgeri* or *G. hybrida rosea flore pleno*, according to one's way of speaking, and *G. Rosy Veil*, although admirable enough in their sphere, are a little too tall (two feet) for the purpose we have under consideration.

Helianthemum.

The sun roses should play a much larger part in our garden operations than they ever have in this country. They possess many of the good points which gardeners claim to look for in their plants, including a long blooming period, a wide range of color and the desirable trait of getting along on little nourishment and moisture. They suffer during cold

winters, especially in exposed positions, but may be grown, with a little consideration for their needs, in a much larger part of the country than is generally thought possible. Speaking from personal experience in northern Michigan, where the thermometer sometimes registers in the thirties below zero, it appears that the plants should be permanent in all parts of the United States where a continuous covering of snow is assured from early winter until spring and in all other sections with the possible exception of the plains and prairie country from Iowa northward. In any event the great value of these plants warrants trials. Give them a lean soil—richness means succulent growth at the expense of flowers—in full sun and protection from cold winds and they are quite apt to surprise one by their reaction. Named kinds, of which there is an army, in colors ranging from whites, pinks, creams, yellows, oranges and copper to reds in numberless shades, must be grown from cuttings, which root readily almost any time they are available. Consult lists of specialists for varieties now available in this country. It may be well to add for the information of growers who are not familiar with the genus that the plants resent disturbance after they have attained much size. For that reason I have found it advisable to grow them in pots, selling them within a year of the striking of the cuttings.

Hutchinsia.

Turning again to shade lovers we find in the hutchinsias plants of much value for our present purpose. I can easily understand why these plants are not better liked in this country if other gardeners do as I did for years in following the advice of some English authors to give the plants a well drained spot in a sunny situation. That is no doubt suitable treatment under the moist conditions of the British Isles, but it spells quick disaster in one of our hot, dry summers. Beyond a doubt these interesting crucifers would be more popular here if their need of moisture and shade, as on a north wall, were better known. All three species known to me, *Hutchinsia alpina*, *Auerswaldii* and *brevicaulis*, make cushions of shining green foliage an inch or two thick, which are covered

with clusters of snow-white cross-flowers for a long time in late spring. Like most crucifers, they are easily grown from seeds and offer no difficulties to the commercial grower.

Hippocrepis.

Most of the horseshoe vetches that I have grown were either tender or had little garden value. The one brilliant exception so far has been *Hippocrepis comosa*, a creeping legume from central and southern Europe, where it is said to adorn dry, sunny slopes in limestone soil. In any case, it does well here in similar situations, spreading out a carpet of pleasing legume foliage, over which it displays nodding golden blooms throughout the summer. Bailey gives the height as eight to twenty-four inches, but that must mean the length of the prostrate stems, for it is never taller than three or four inches in my garden. It is a splendid wall plant that should be made more of. According to the books, it may be propagated by division, but I have found seedage more efficient.

Hypericum.

I have had a lot of fun with hypericum, much of which turned out tragically to the plants, because many of them, perhaps a majority, are not able to stand our northern winters. It is a vast assemblage, being composed of more than 200 species, and consequently cannot be covered in our short space, but I should like to mention a few kinds which I have found useful for wall planting. Of these *H. calycinum*, *Coris*, fragile and reptans are perhaps the best of my acquaintances for our present purposes. They all have typical St. John's-wort flowers of yellow, spreading along wall crevices, filling them with ribbons of green, over which shine the large, yellow flowers through much of the summer. They vary in height from the ten inches of the first to the three to four inches of the others. Propagation is easily accomplished by means of division and from seeds.

PEACH TREE BORERS.

To protect mature peach trees as well as to safeguard young trees against attacks from the peach tree borer, they should be treated in spring with paradichlorobenzene, or "P. D. B." or "Paracide," as it is

popularly known, either in dust form or in an oil emulsion, despite the fact that this operation is generally regarded by peach growers as a routine autumn job.

Spring treatment should be completed by the middle of May. Little feeding is done by the peach tree borer during the winter, but with rising temperatures in April and May feeding is resumed and a large amount of girdling may be accomplished which will shorten the life of the tree, if it does not actually kill it.

The so-called "crystal-ring" method of applying paradichlorobenzene, widely used for many years, is probably the most satisfactory procedure for a small number of trees. This is rather laborious, and a new method of application whereby the insecticide is applied in an emulsion of cottonseed oil has proved quite satisfactory in commercial plantings.

PEACHES FOR NORTHEAST.

Elberta is still the outstanding commercial peach in ten of eleven northeastern states that grow peaches in any quantity, with Golden Jubilee second, and J. H. Hale third, according to ratings given to eighty-six varieties by horticulturists representing Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, New Jersey, Delaware, Maryland and West Virginia.

A series of three conferences of these representatives was held at the New York state experiment station, at Geneva, upon the call of Director U. P. Hedrick and with Prof. M. A. Blake, of the New Jersey experiment station, as chairman of the committee on peach varieties. The findings of the group have been summarized in a pamphlet entitled, "Evaluation of Varieties of Peaches in the Northeast," which may be obtained upon request of the station at Geneva.

A series of seven classes was established, based on use and adaptation, and the varieties are evaluated by individual states. It is pointed out, however, that the list does not constitute a recommended list for a peach grower in any particular state to follow blindly as a planting guide; rather it is intended to aid growers and nurserymen in making final selections that will suit local conditions.

The specialists warn peach grow-

ers against attempting to do much in the way of variety testing for themselves, but urge that they delay planting new sorts on a commercial scale until they have fruited under commercial conditions and under varied environments for several years.

EVALUATE APPLES.

The experiment station horticulturists in the twelve northeastern states have prepared evaluations of varieties of different fruits in an attempt to determine their value for commercial planting in this region. This information should be of value to nurserymen in helping estimate the probable demand for different varieties in the near future.

The evaluation of apple varieties has been completed, and copies may be obtained by addressing the Pomology Department, Massachusetts Agricultural Experiment Station, Amherst, Mass.

SPRAY FOR PEAR PSYLLA.

Control of the pear psylla by a single application of an oil spray is possible where the spray application is properly timed and where the treatment is well made, provided the orchard is not subjected to re-infestation from near-by untreated trees.

One important advantage of oil treatment over other methods of control for pear psylla lies in the fact that, when applied thoroughly at the proper time, a single application may protect the orchard from psylla for the entire season. By

thorough treatment is meant covering the top, the trunk and the water sprouts about the base.

Oil sprays should be applied to pear trees before perceptible growth has begun beyond a slight swelling of the buds, but after danger of severe freezing. If possible, the spraying should be done on balmy days with the temperature at 55 degrees or higher, since more adult psyllas will be on the trees on those days. It is important that the oil be on the trees before many eggs are laid, however, and before the buds advance too far; hence spraying may have to be done at lower temperatures some seasons.

CONNECTICUT OFFICERS.

Louis C. Vanderbrook.

Louis C. Vanderbrook, president of the Connecticut Nurserymen's Association, was born November 14, 1901, at Newark, N. Y., of Holland Dutch parentage, but moved with his family to Manchester, Conn., in 1909, when his father resigned as assistant superintendent of Jackson & Perkins Co. to accept a position as superintendent of C. R. Burr & Co.

He graduated from Manchester high school in 1920, where he indulged extensively in athletics. After completing the college course in high school, he graduated from Morse University, at Hartford, Conn., paying his own tuition from funds earned in practical nursery work during vacations. While at the university he majored in advance accounting, business management, commercial law and salesmanship.

He had acquired the principles of propagation under the able tutelage of his father and became associated with the firm of C. L. Vanderbrook & Son in the capacity of production manager in 1924.

Possessed of a restless mental nature, he branched out in an exhaustive study of landscape architecture and engineering. He entered the retail branch, planning and designing the grounds for many of the homes and estates in surrounding towns.

He became interested in association affairs in 1936 and assisted the legislative committee of the Connecticut Nurserymen's Association in having corrective and beneficial laws passed

in the state legislature. He was elected vice-president of the organization in 1937 and president in 1938.

Mr. Vanderbrook is married and has one son, 8 years old. He is an accomplished pianist. His pet hobbies are music and Free Masonry.

Peter Cascio.

Peter Cascio, secretary-treasurer of the Connecticut Nurserymen's Association, is proprietor of the Fernhill Nursery, West Hartford. A nurseryman of wide experience in the trade, Mr. Cascio also possesses a thorough formal training. In 1921 he received the degree of bachelor of science from the Massachusetts State College, Amherst, where his work was largely in horticulture and allied subjects. In the succeeding year, he studied at Cornell University and the University of Southern California.

From 1922 to 1925, Mr. Cascio was foreman at florists' and nursery establishments at Trinidad, Colo.; Fall River, Mass., and Willimantic, Conn. At Boston, Mass., he was employed by the Dodge Tree Co., which later was absorbed by the Bartlett Tree Co. One season was spent in the flower seed department of the New York store of Vaughan's Seed Store.

As foreman for C. H. Sierman, landscape gardener and architect, Mr. Cascio went to Hartford. Subsequently, he was taken into the firm by Mr. Sierman. In 1934, Mr. Cascio started in business for himself, operating a nursery at 520 Fern street, West Hartford. Subsequently he purchased fifteen acres on Albany avenue, Hartford, where the business is being developed.



Louis C. Vanderbrook.



Peter Cascio.

Treat Cuttings with Indolebutyric Acid

Results of Tests with Cuttings of Trees and Shrubs Made at the United States Horticultural Station at Beltsville, Md. — By G. E. Yerkes, Horticulturist, Bureau of Plant Industry

Cuttings of a number of shrubs and trees were treated with indolebutyric acid in various dilutions of water and for differing periods of time during 1937, at the United States horticultural station, Beltsville, Md. The experiments were in an ordinary propagation house with sand as the rooting medium. No bottom heat was used during summer, the prevailing air temperature being too high, but heat was used during autumn and winter to maintain the sand at nearly 70 degrees Fahrenheit.

The treatment consisted in immersing the basal ends of the cuttings to a depth of about one-half inch in water solutions containing indolebutyric acid at the rate of two to twenty milligrams in 100 cubic centimeters of water. During the time the cuttings were immersed they were placed in the propagation house exposed to light, but screened from direct sunlight. All the cuttings were from outdoor-grown wood. In most cases twenty cuttings were in each treatment. The tests were repeated on many of the species to compare the effect on different stages of growth.

The response varied considerably among the several plants. The most noticeable effects induced by the treatment as brought out in these tests are:

On a number of the species that were tried, root formation was hastened, but the eventual percentage of successful cuttings was not materially larger.

In the case of other species, more roots were formed than on untreated cuttings, but without an important gain either in time or percentage of successful cuttings.

Roots were induced on some plants which normally root slowly, that were practically failures under our conditions without the treatment.

The cuttings induced to root by the treatment made normal plants.

The best response to the treatment was usually obtained when the cuttings were in the best stage of growth and other conditions were most favorable for normal rooting. During summer, the temperature

here could not be kept low enough for best results while admitting a desirable amount of light. This affected the treated cuttings just as adversely as the normal ones. The experience here leads to the observation that the use of the chemical cannot be expected to take the place of the close attention to details necessary without it. The selection of the most suitable wood, the care of the cuttings while in the rooting medium, and precautions to be observed to check losses from diseases remain important elements for successful results whether the cuttings are treated or not.

To indicate the results from these tests, the several kinds of plants are grouped according to their response to the treatment. These groups are made somewhat arbitrarily, there being no sharp line of separation, but they serve to bring out the point that the effect varied considerably among the plants. In the first group are those that responded by a gain in time of several days to more than a month. However, when the counts were made, most of the untreated cuttings were still in condition that they might be expected to root later; hence no considerable gain in eventual percentage is shown.

The second group includes the kinds that gave a definite response by forming more than a normal number of roots, but without a conspicuous gain in either time or percentage.

The third group is a comparatively small number of species that were induced to root by the treatment, but failed or nearly failed without it.

The percentages of successful cuttings are placed in the two columns adjoining the names. The first is from the checks, handled in the normal way by planting soon after they were made; the second is the result from the best treatment.

In the next columns are the strengths of solutions in milligrams per hundred cubic centimeters of water, and the number of hours the cuttings were immersed. If the results were similar from different so-

lutions the weakest and strongest are stated. Only the shorter period of immersion is given if longer ones were no better.

During hot weather, a period of four hours in the solution gave results equally as good as, or even better than, longer immersions in many cases. This shorter period, being somewhat at variance with the twenty hours or longer which is usually recommended, is suggested for trial rather than a definite recommendation for general use. The condition of the cuttings with respect to their degree of immaturity, the environment in which they were grown, the leaf surface, the temperature and humidity of the air and perhaps other factors may affect the most desirable choice of time as well as strength of the solution. The shorter time proved advantageous here during summer, when cuttings of some plants kept as long as twenty-four hours in water containing none of the chemical did not root so well as those planted without delay for comparison.

Besides the plants in the lists, several others rooted in small percentages after treatment while the untreated ones failed, but the proportion of rooting was too small for practical significance. The limited success with these lends encouragement to continued trials with variations in treatments and with cuttings at other stages of growth. These species include *Aronia arbutifolia*, *Azalea mucronulata*, *A. Vaseyi*, *Daphne Cneorum*, several varieties of flowering crabs, *Stranvaesia salicifolia* and *Vaccinium Oxycoccus*. Hybrid tea rose cuttings from outdoors, taken at four dates during the summer, likewise yielded low percentages of successful rooting, even when special care was taken to select wood carrying apparently healthy foliage.

No roots were induced on summer cuttings of *Acer polymorphum*, *Betula alba pendula*, *Crataegus cordata*, *Ilex laevigata*, *I. verticillata*, fruiting varieties of apple, and *Stewartia pentagyna*.

Indolebutyric acid does not dissolve readily in water, but is soluble

in alcohol. Its preparation in solutions of the required strength is a simple matter, except that the equipment for weighing the minute quantities to be used is lacking at most nurseries. The Ohio experiment station has recently given directions for preparing a stock solution by adding 125 cubic centimeters of ninety-five per cent alcohol to one gram of the acid, and after it is dissolved, 125 cubic centimeters of water is added. This makes a solution containing indolebutyric acid in the proportion of four milligrams per cubic centimeter. (One gram is the equivalent of 1,000 milligrams.) In this form the solution is said to keep well if stored in a dark cool place for use as needed. The acid can now be purchased in one-gram or larger packages. After weighing, the only special equipment necessary to prepare the stock solution and to measure the small quantities to be diluted for use is a small graduated glass of twenty or twenty-five cubic centimeters' capacity for measuring the stock solution and a larger glass, holding 100 or more cubic centimeters, for measuring the water. A gram of the acid, when diluted for use, will treat at least 10,000 or 15,000 cuttings, depending on their size and the strength of the solution. Indolebutyric acid in solution is sold also under several trade names, with directions for use by simply adding a specified amount of water. These preparations are more convenient than the pure chemical, though more expensive, if large numbers of cuttings are treated.

Whether gains derived from the treatment of many of the species such as those recorded here would be considered worth while in commercial propagation may be a matter of judgment, depending on circumstances. Under the conditions here, the species named in the third group were decisively benefited by the treatment. The gain in time required for rooting those listed in the first group was advantageous, especially when unfavorably hot weather intervened, by sooner enabling transfer of the rooted cuttings to more favorable environment.

In the subsequent growth of the plants, no appreciable difference is seen between those induced to root by the aid of the treatment and those rooted in the normal way.

GROUP 1.

Cuttings rooted one to five weeks sooner when treated with indolebutyric acid, but without a definite gain in eventual percentage.

Species	Per cent rooted		Best treatment		1937	Days	Notes on condition of cuttings.
	Check	Tr'td	Mg. in 100 cc	Hrs.			
<i>Abelia grandiflora</i>	33	93	5	21	7/1	34	Growing wood best. Little response to treatment on harder wood.
<i>Azalea Kaempferi</i>	0	85	5-8	4	7/7	47	Twigs still in active growth.
<i>Azalea var. Carmen</i>	30	100	3-10	4	6/28	40	Twigs still in active growth.
<i>Azalea var. Cattleys</i>	0	79	5-10	4	8/6	36	Short laterals better than main branches of all Kurume azaleas.
<i>Azalea Damask Rose</i>	65	95	3-8	4	7/6	34	
<i>Azalea Snow</i>	33	80	3	21	6/30	54	
<i>Azalea Yayegiri</i>	67	100	5	4	7/13	48	
<i>Buxus sempervirens arborescens</i>	33	70	3-5	20	10/14	70	Cuttings taken earlier yielded similar results.
<i>Buxus Handsworthii</i>	70	100	3	20	10/14	69	
<i>Chamaecyparis pisifera plumosa</i>	13	65	3-8	20	10/20	68	Earlier cuttings suffered from heat.
<i>Celastrus scandens</i>	0	90	5	20	7/20	34	Vines in active growth.
<i>Cotoneaster microphylla</i>	45	100	8	4	10/13	25	Nearly mature. July and August cuttings failed.
<i>Evonymus patens</i>	40	91	5	4	10/10	14	Easily rooted. Similar results from cuttings made earlier.
<i>Gordonia alataamaha</i>	34	83	3	4	8/30	29	Taken from young trees after terminal buds had formed.
<i>Ilex crenata</i>	57	100	8	4	6/22	43	Cuttings from growing wood rooted soonest.
<i>Ilex crenata microphylla</i>	20	87	5	4	6/22	62	Cuttings from growing wood rooted soonest.
<i>Ilex cornuta</i>	0	30	3-8	4	6/22	62	Soft wood best. No results from August cuttings.
<i>Ilex glabra</i>	0	90	5	4	7/29	41	Half-ripe wood.
<i>Ilex opaca</i>	0	96	10	18	10/28	23	Wood nearly mature. Untreated cuttings taken July 10, rooted 93 per cent in 30 to 90 days.
<i>Juniperus chinensis Pfitzeriana</i>	0	40	5-8	20	10/18	88	Similar results from earlier cuts.
<i>Osmanthus Aquifolium</i>	20	93	15	4	6/23	32	Uninjured by 20 mg. per 100 cc.
<i>Pyracantha coccinea</i>	45	81	3	4	10/14	70	Nearly mature. July and August cuttings failed.
<i>Styrax japonica</i>	10	100	5	4	7/16	23	Terminal buds were forming.
<i>Taxus cuspidata</i>	30	95	5-8	22	12/31	56	Short laterals. Winter cuttings rooted sooner than those taken in July, Aug., Oct. and Nov.
<i>Thuja occidentalis, Globe arbovitae</i>	25	85	6-8	20	10/20	69	August cuttings suffered from heat.
<i>Thuja plicata</i>	8	79	8-10	22	1/13	62	August cuttings suffered from heat.
<i>Viburnum dentatum</i>	80	100	3-5	4	6/23	44	All the viburnums rooted best from wood taken while growth was still active.
<i>Viburnum dilatatum</i>	70	100	3-10	2	6/19	31	
<i>Viburnum plicatum</i>	0	33	3-5	20	7/20		
<i>Viburnum Sieboldii</i>	0	92	3-5	4	6/23	26	
<i>Viburnum Wrightii</i>	59	100	3-10	4	6/23	26	

GROUP 2.

Plants which responded to indolebutyric acid treatment by more roots, but without much gain in time or percentage.

Species	Per cent rooted		Best treatment		1937	Days	Notes on condition of cuttings.
	Check	Tr'td	Mg. in 100 cc	Hrs.			
<i>Azalea arborescens</i>	70	60	8-10	4	6/28	63	Wood in active growth. Deciduous azaleas withstood somewhat stronger concentrations without injury than Kurume varieties.
<i>Azalea nudiflora</i>	56	73	8-10	4	6/29	62	
<i>Azalea poukhanensis</i>	57	67	8-10	4	6/28	63	
<i>Azalea viscosa</i>	63	58	8	4	6/29	62	
<i>Azalea Christman Cheer</i>	100	60	3-5	4	6/11	40	
<i>Azalea Debutante</i>	61	89	5	4	6/30	32	
<i>Azalea Firefly</i>	94	95	3-10	18	7/2	54	
<i>Azalea Hinodogiri</i>	75	85	3-10	20	7/1	52	
<i>Azalea Hinomayo</i>	66	81	5-8	20	6/28	42	
<i>Azalea Maxwellii</i>	82	100	3-8	20	6/18	47	
<i>Callicarpa purpurea</i>	87	100	3-10	20	7/16	18	Easily rooted at different stages of growth.
<i>Cornus Amomum</i>	53	73	3	20	7/13	22	Taken when terminals were forming.
<i>Deutzia gracilis</i>	79	90	8-10	4	6/17	41	Easily rooted at any time.
<i>Elaeagnus pungens</i>	72	100	3	4	10/11	70	Earlier and later cuttings failed.
<i>Ginkgo biloba</i>	80	90	5	20	7/14	36	Taken after terminals had formed.
<i>Juniperus horizontalis plumosa</i>	60	60	5	20	10/20	48	Results similar from August and September cuttings.
<i>Ligustrum japonicum</i>	94	95	3-5	20	6/21	28	Growing tips rooted much sooner than older wood.
<i>Philadelphus grandiflorus</i>	70	75	3-5	4	7/2	33	Best soon after flowering.
<i>Rosa odorata</i>	89	95	3-10	18	6/18	12	Easily rooted at any time.
<i>Syringa var. Louvois</i>	41	49	5	3	5/18	61	Soft wood soon after flowering. No results from harder wood.
<i>Viburnum cassinoides</i>	30	30	3-5	4	6/23	26	Taken while in active growth.
<i>Viburnum Lantana</i>	58	66	5	4	6/23	26	Taken while in active growth.
<i>Viburnum tomentosum</i>	92	91	3-5	4	6/23	26	Taken while in active growth.

GROUP 3.

Plants which rooted after treating the cuttings with indolebutyric acid, while those untreated failed or yielded small percentages.

Species	Per cent rooted		Best treatment		1937	Days	Notes on condition of cuttings.
	Check	Tr'td	Mg. in 100 cc	Hrs.			
<i>Azalea calendulacea</i>	0	40	5-10	22	6/18	73	Taken while in active growth. No results from older wood of deciduous azaleas.
<i>Azalea japonica</i>	0	35	5-10	4	6/29	62	
<i>Azalea florida rubra</i>	10	70	3-10	4	6/18	73	
<i>Cornus florida</i>	0	60	5	4	7/13	27	Best results from wood taken shortly before terminal buds had formed.
<i>Cornus paniculata</i>	0	66	8-10	4	7/30	41	Taken before terminals had formed.
<i>Kolkwitzia amabilis</i>	0	100	6-10	4	7/2	34	In active growth when taken.
<i>Magnolia Kobus borealis</i>	0	58	8-10	22	6/18	24	From young trees taken when terminal buds were forming.
<i>Magnolia liliflora</i>	21	100	5	22	8/30	49	Wood from young trees in active growth.
<i>Malus var. Eläyi</i>	0	70	5	4	7/2	34	Soft wood soon after flowering.
<i>Philadelphus var. Norma</i>	0	87	3	4	7/2	33	Soft wood soon after flowering.
<i>Philadelphus Voie Lactée</i>	10	42	8	4	7/2	33	Soft wood soon after flowering.
<i>Prunus triloba plena</i>	0	33	5-10	4	7/15	21	Terminal buds had formed. Indications of better results from younger wood.
<i>Tsuga canadensis</i>	0	79	5-10	22	1/13*	62	No results from cuttings made in summer and fall.
<i>Vitis rotundifolia</i>	0	44	2	20	8/16	22	Best rooting from third to sixth nodes back from growing tips.

*1938



Charlie Chestnut



How to Build Landscape Department

I don't know what come over Emil but one day last Feb. he took a notion to clean out his desk. He got a letter that said why didnt he put in for the Wash. D.C. fund right away, and he claimed he had sent in a check which he would find to prove it. He never found the check, but some other stuff which turned up in looking give me a idea to tell about the time we hired Jake McSnipe in the landscape department. That was quite a few years ago. This was how it all come up again on account of Emil took a idea to clean out his desk.

Emil has got a big desk that holds a lot of stuff. He throws the trade papers on top. They lay there with the wrappers on just as they come from the mail. Emil always figgers he will take a day to look the papers over but he dont have no time he says. He keeps piling up the papers till it wont hold no more and then he lays them on the floor.

Inside the desk he has got all the catalogs of other nurserymen. He has them handy so he can see how he will have to cut his price to get under what the other boys are asking for different stuff. In the bottom drawer he has all the tax bills but the mice have chewed them so he couldnt make out nothin even if he wanted to look up on it.

There is another drawer with a lot of old letters in. We was lookin thru that drawer, Emil was looking at the letters and I was puttin each one in the stove. All of a sudden he leaned back in his chair and says, "Well, well, here is that letter from Jake McSnipe." "Remember Jake," he says. "That man sure was a liar and a crook." "Wonder what ever happened to him," Emil says. "Didnt you ever hear nothin about him since he beat you out of that ford coup," I says. "Nope, I never did hear nothin, but then I never figgered I got beat much on that deal as I wasnt out nothin in the end," says Emil.

That was 12 years ago. I guess the whole thing has been forgotten so I will go to work and tell about that experience we had with Jake.

I remember that winter Emil had been thinking he would make a drive on it and get a lot of landscape jobs. I remember the day the letter come in from Jake.

Emil read it over again to me. Here is the letter. It said:

"Gents: For some time I have had my eye on your outfit and I have decided to give you the first opportunity to take advantage of my services to double your landscape business. Here is the way I work. I canvas the territory so good that no job gets by me and I pride myself that I can outsell anybody in the business. All I ask is a small drawing account to cover my expenses and at the end of the season if I dont double your sales it dont cost you nothin more. However if the sales is doubled all I ask is 20% of the amt. for my pay. Here is a proposition you cant lose. I can come rite away. Yours truly, Jake McSnipe."

There was a picter of Jake enclosed and some other papers. One was a diploma sayin that Jake had took a course in landscaping by male and 2 letters sayin that Jake was honest and O.K. Jake wrote the letters hisself we found out later.

Emil didnt do nothin rite away, but I could see he was a little interested. But a few days later another letter come. It was from Jake. Here is the letter:

"Gents: I am thinking of writing to one of your compeditors (which I will not mention his name here in the paper) unless I get a favorable answer from you next Monday. Yours truly, Jake McSnipe."

That was too much for Emil. He says, "I have got a good notion to send for that man-and see what he has got to say." So Emil sent a postal.

We waited for over a week but didnt hear nothing. "Maybe he hired out some place elst," I says. He showed up a few days later. He thumbed his way in from Missouri with only a bundle wrapped in newspapers and a wooden box with a lock on it. It was a long time afterwards when we found out what was in that

box, and it explained some of the things about Jake that was a mystery to me and Emil then. We still have the box in the office. Emil keeps his shot gun shells in it and sometimes he makes a wise crack that he wouldnt mind slipping a shell into his 12 gage if Jake should ever show up again at the nursery.

But I am ahead of the story a little. Jake was a fast worker. The very next day he had made a deal with Emil and took Emil's ford coup and away he went. He come back in three days and done a awful lot of typewrittin but he was careful that nobody could see what he was writin. He never left none of his letters around.

A few days after he come in with a couple of orders and kept it up all along till we had more landscapin work than we had ever seen before. "Jake sure is makin good," Emil said.

All went well till one day in May a man drove in and asked for Jake. It happened that Jake was out, but a few days later this guy come in again. Afterwards I remembered seeing Jake sneak off thru the field with Emil's coup but I didnt think nothing of it at the time. That was the last we ever seen of Jake or the ford coup either and that was 12 years ago this spring.

But to get back to this guy who was hunting Jake. He was pretty mad about something but he said he must see Jake and then he went away. Next day he was back. He says to Emil, "You are stalling me. I want my 50 dollars right now." Finally he said, "I am the butlar and shauffer for one of the estates where Jake had got a good order." He said Jake had met him in the garage at the estate and make inquiries about a landscape job which Jake had heard was going to be done. Jake found out that the job was practically let and that there was 4 other bids so it wasnt no use to bother about it. However as the boss was away Jake made a deal to sneak into the house and copy the lowest bid for a cash consideration of 50 dollars, payable when Jake got the order. Jake put in a bid and got the order alright and now the butlar wanted his money. Emil told the butlar he didnt believe the story and besides he wouldnt never pay for it.

[Concluded on page 19.]

Highway Planting Costs

*Pitfalls in Bidding on Highway Planting Projects and Possible Solutions,
Pointed Out at Ohio Short Course—By Harry S. Day, of Fremont Nursery*

The subject of highway planting costs includes, I assume, the consideration of all things that enter into the operation to affect the ultimate cost, either directly or indirectly. And I believe that suggestions toward reducing both estimates and actual costs, without prejudice either to the state or to the contractor, with the idea of producing just as good a job in the end, are perfectly proper in the discussion of this subject. No criticisms should be construed as anything but constructive. We realize that this is a comparatively new work and, as in every new undertaking, there must be a certain amount of planning and experimenting before the best system can be worked out.

It is probable that all of us, when once we get into a job of highway planting, discover many items of which we never dreamed which affect our costs. Some of these are things we never encountered in private work and may spell the difference between profit and loss. It is obviously not possible to arrive at any fixed set of costs which can be applied uniformly. The type of soil will vary in different localities and even in different sections of the same job. It costs far more to dig pocket holes in a shale or hard clay than in sand or loam. The same applies to roadsides. Weather conditions have much to do with costs, as do the general conditions of the site where the operations go on. We have found planting on slopes to be an extremely expensive operation. If it is possible for your trucks with manure, topsoils, etc., to dump their loads at the top of the bank so that the material can be shoveled down, the expense is reduced. But this is usually not possible, and the material has to be dumped at the bottom and handed up the slope either with shovels, from man to man, or carried in containers.

Of course, one of the first items of cost to be considered is labor. We all know that the labor must be obtained from the reemployment rolls of the county in which the work is to be done. The rate varies in

different counties, but we know what that rate is in advance. What we do not know is how competent the men are. At best, some of them have never had any experience in handling a shovel or a rake. Many are willing to do a good day's work, but some are not. There are sometimes difficulties in getting rid of men who are particularly worthless, and it is often less trouble to keep such men on the job.

It has seemed to us since our first experience in this work that the cost of planting a tree or shrub according to specifications was higher than necessary for all ordinary purposes. The specifications for highway planting of trees designated as street trees require a hole four feet square and two feet deep. The original soil, with the exception of topsoil, must be removed and carted away and the hole refilled, first with a layer of manure, then topsoil, and then the area mulched over with two inches of straw. This means the removal of 1.2 cubic yards of soil and the replacement of it with an equal amount.

For evergreens and ornamental trees the specifications are for a hole

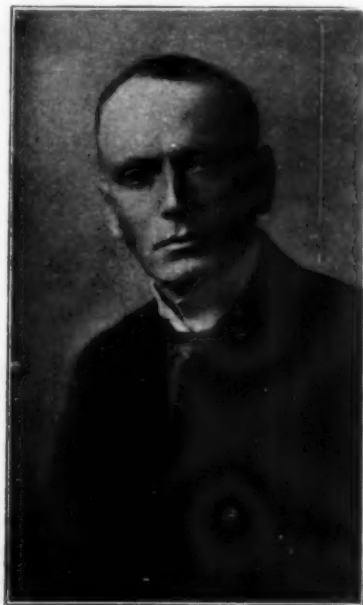
three feet square and two feet deep, requiring the moving each way of two-thirds of a cubic yard. For the larger shrubs, the requirements are a hole twenty-eight inches square and eighteen inches deep.

For one of our jobs which might be a fair sample, because it was on level ground with average planting conditions throughout, our costs were divided into the following items: Labor of planting the stock, cost of the stakes, cost of manure, including hauling; cost of digging the holes, cost of handling the soil that was hauled away and refilling with topsoil and miscellaneous costs, including watering, guying the trees and pruning.

The total cost of these operations was \$867. This did not include the cost of the nursery stock or of trucking it to the site. The total value of the nursery stock at the ruling wholesale prices at that time was less than \$200. We did not keep separate figures on each kind of tree and plant, but by dividing the total in accordance with the size of the hole, etc., we arrived at the following estimates of the costs for planting on that job: Shade trees, \$4.60 each; evergreens and ornamentals, \$3.25 each; large shrubs, \$1.60 each, and small shrubs, 65 cents each. When the cost of the trees themselves was added, the total exceeded the engineers' estimate by about \$100.

I might add that after this planting and seeding was completed, we spent over \$200 in keeping the area watered for about two weeks until we got a good rain, and then let nature take her course, with the result that we were obliged to do a considerable amount of reseeding and replacing in the fall.

In our experience, I believe the greatest obstacle we have had to contend with, no matter whether we were executing a contract given us direct by the highway department or a subcontract under a road contractor, is that we have invariably had to wait for the road contractor to complete his work before we could go ahead. This has forced us to do our seeding



Harry S. Day.

and planting at a later date than advisable. In most, if not all, cases we were ready to do our work at the proper time and were in no way responsible for the delay.

We are usually urged to get to work on these jobs early, but it frequently happens that after getting to work it is only a matter of a short time until we are caught up with all the road that is ready to plant and have to wait for the road contractor to get more roadway ahead of us. If favorable weather conditions prevail everything may come out all right, but it often turns out otherwise. Thus the work is often continued to a finish when it is really not advisable to do so, and it is the landscape contractor who suffers, because his work is the last to be done and the most easily damaged by weather conditions.

Mulching the seeded areas is the most expensive operation of seeding, we have found. We estimated that it cost us one cent per square yard for the work. We have wondered if this cost might not be reduced by seeding a liberal quantity of oats with the grass seed and eliminating the mulching with straw. I have seen this work out well on private work. For extremely late seeding, of course, it would not do, because the oats would not have time to make sufficient growth to be of any value.

So far I have spoken of the main items of cost. There are always small items which come up in the execution of a job which are bound to increase the total cost. We have found cases in which the road contractor, supposed to place a certain quantity of topsoil where we were to seed, covered up in this topsoil a quantity of stones which we had to pick out at our own expense. I noticed topsoil being placed on a roadside this past season so that stones were being covered up; so I suspect that landscape contractors will run into the same trouble in the future.

Another rather serious source of extra cost is the loss of tools on these jobs. We had a tool box where every man got his tools in the morning and was supposed to leave them at night, but when you have workmen scattered along the road for perhaps a mile, you cannot make sure no one throws his shovel over into

the woods when he leaves. It is never found there in the morning. Breakage of tools in the hands of men who are not familiar with them causes no little loss, also.

Fluctuation of prices may cause difficulty. Estimates should not be prepared too far in advance, because they may be out of line by the time the work is done. We took a job last autumn under a subcontract from a road contractor. He had bid for the entire work, including the nursery stock, and we had to take it at that or not at all. At the time we thought we might get by, but when we came to buy the stock we found that we were up against it. One item was for eighteen *Taxus cuspidata*, with a 3½ to 4-foot spread; the engineers' estimate was \$7 each, planted. The best estimate we could get for a long time was \$7.50 each for the trees alone, and no delivery until spring. We finally located them at \$6 each, but had to truck them 200 miles to the job. Of course that is an extreme case, but in the past six months the price of nursery stock has advanced a great deal.

A question which naturally arises is whether or not some of the requirements might not be modified so as to reduce costs and at the same time give the state just as good a planting job. Most of the trees and shrubs in highway planting are planted across the ditch from the roadway, on natural soil. Where this soil is of reasonable fertility, and especially where trees of the same character and sometimes of the same varieties are growing just over the fence and doing well, would it not seem reasonable to do away with the expensive preparation and plant the tree in the ordinary way?

Then what about some of the requirements of balling and burlapping? Is it necessary to require a 28-inch ball on a 5 or 6-foot thorn or crab? What nurseryman, transplanting those in his nursery, moves them with a ball of soil? I know of 150 thorns running from five to eight feet tall which were moved from a pasture field last year with totally bare roots, held in a cellar for a week until they could be planted out, and then coming through without a single loss. There is no question that you can get longer and

more roots if a tree is properly moved without a ball or soil than with one. I would not advocate the moving of evergreens a long distance or comparatively small specimens with bare roots, especially for highway work, but I do believe that the requirements as to the size of ball could be modified and even eliminated in some cases. For instance, it seems useless to me to require the roots of *Rhus canadensis*, *Rhus copallina* and *Rosa setigera* to be balled and burlapped.

The question has been discussed for several years as to whether the advance estimates prepared by the landscape engineers are high enough. At first glance one would think that they were high. When you see a tree in the estimate at \$6 planted, and know it is worth about \$1.50 wholesale, it looks like a good profit. But when you find that it costs you \$4 to plant the tree, not counting your overhead and trucking to the job, and if you have to water the plants in a dry season and sometimes lose them entirely, you realize that you were mistaken.

That brings up the question of a guarantee of replacement on nursery stock. As I understand it, the specifications do not state definitely that all stock must be guaranteed and replaced if it dies. They do say that the stock must be alive and in growing condition before final acceptance. Sometimes acceptance is not given until after a growing season has elapsed, and then will not be given, if anything is dead, until it has been replaced. Stock might be alive and growing for weeks after it was planted in the spring and yet might be dead in the autumn, due to causes for which the nurseryman is not responsible.

On seeding, the specifications require that a sample of the seeds shall pass the test of the state analyst, that a sample shall be taken from the same seeds when delivered on the job, and that the seeding shall make a "show of green" to be approved. Suppose that, urged to get to a job early, you began seeding in September. The first section seeded came up and grew to three or four inches high that autumn. You asked the person in charge of the job whether you should mulch this with straw, since mulching was not in-

[Concluded on page 18.]

Oregon Nurserymen Meet

*Staff of State Experiment Station Provides Program
for Spring Meeting of Oregon Association at Corvallis*

The spring meeting of the Oregon Association of Nurserymen, held in cooperation with the Oregon agricultural experiment station at Corvallis, April 26 and 27, proved to be a successful event. There was much to be learned from recent research work at the station and the entertainment was fine. More than sixty nurserymen, florists and bulb growers attended the sessions, which were held in the Memorial Union building on the campus of Oregon State College.

Exhibits of nursery stock showing characteristic injury from various insect pests and diseases and other exhibits showing results of recent experimental work were staged in the building; these could be studied at leisure by the visitors. Actual photographs, greatly magnified, showed the symptoms and characteristics of smut of calendula, holly canker, holly needle injury, Berckmans arbor-vitæ disease, leaf spot and stem cancer of kalmia, coryneum on cypress and lophodermium blight of juniper.

During the first day's session, visiting ladies were taken on an inspection tour of the campus buildings and grounds under the supervision of Mrs. Henry Hartman.

First Session.

J. Frank Schmidt, president of the Oregon Association of Nurserymen, called the opening session to order and, before turning the program over to Prof. Henry Hartman, of the experiment station, he expressed the thanks of the nurserymen for this opportunity to hear reports of recent research work and investigation.

Because of the illness of W. A. Schoenfeld, director of the station, Prof. Ralph S. Besse, vice-director, welcomed the visitors and extended to them the facilities of the institution and the experiment station. He mentioned briefly that the program would consist of reports and demonstrations of research work on problems relating to the nursery business. He said: "We believe that results are encouraging. We believe that the development of the method of speeding up the period of dormancy in nursery stock which must

be dug and stored before it is mature, that the propagation of cuttings by the use of hormones, that the solution for the control of Berckmans disease and that the discovery of the development of the holly bud moth are at least four achievements which have been worked out this last year."

Economic Problems.

"Reciprocal Treaties and Trade Agreements" was discussed by Prof. George R. Hyslop, who recently returned from Washington, D. C., where he represented the bent grass industry of Oregon. Professor Hyslop told of the procedure of the tariff committee in its hearings and the thoroughness with which the committee studies the briefs presented for consideration. This makes it highly important that great care be taken in preparing a brief so that it adequately presents the exact situation. He pointed out the vulnerable position in which many crops are placed because they do not loom up large in the total agricultural products of the nation, and he urged nurserymen to be on the watch so that if these items should come up for consideration they can be protected.

Bringing to the front the use of growth-promoting substances, John Milbrath, research assistant, told of recent experiments with plant hormones and growth-promoting substances. He issued a warning that, even though at the station the workers have had splendid results in rooting various types of cuttings, results cannot be guaranteed as yet because of the newness of the materials and because of many variable factors which may enter in. Mr. Milbrath explained the treatments given, the hours of soaking, the approximate time of rooting, the number rooted and the number of roots produced. In experiments the workers used pyramidal arbor-vitæ, juniper, Irish yew, *retinispora*, *Rosa multiflora*, *Rosa Manetti*, holly, alumi cypress and *Kerria japonica*; a check plant of each item was not treated. In every case the treated plants produced better root systems in a shorter

length of time than those not treated. Despite this apparent success, however, Mr. Milbrath warned nurserymen to take up the method slowly. "Hormones have a lot of possibility," he said, "but should be taken with a grain of salt until more experimenting has been done. They should be left in the hands of specialists until we know more about them."

Peonies.

Presenting observations made of experiments dealing with the forcing and the preservation of peony blooms, Prof. Henry Hartman reported that little progress has been made so far. By repeating the old refrigeration method, the staff found that by taking the flowers two-thirds open, cutting the stems and putting them in cold storage at 31 to 32 degrees, covered, they could be kept for a month or longer. This caused no change in appearance or fragrance of the blooms, and when they came out they were in excellent condition. Professor Hartman said that the staff is continuing work on this and hopes to give a more encouraging report later.

Dr. Frank P. McWhorter spoke on "A New Graft Blight Disease of Roses," which, from its history and the way it reacts, seems to be a contaminating black mold, unlike the common eastern type of fungi. This mold forms on points of union of the graft and within five days will stop the growth of a rose cutting. The speaker used slides to illustrate the characteristics of this graft blight. He said that in the present status, it does not produce any known disease of the rose, but exactly how it came first to infect the cut surface of the graft is a matter of further investigation.

Inspect Trials.

After the Tuesday afternoon program the visitors were taken on a tour of the campus, which is the trial ground for many trees and shrubs. This tour was under the supervision of Prof. Arthur L. Peck, head of the department of landscape architecture. The greenhouses, the chief function

of which is experimental work, were also visited. This was a trip of quips and jests, with a little photography being done by a candid camera enthusiast as the group relaxed a little and admired the beautiful landscaping of the campus.

Of particular interest were two 50-year-old boxwoods which flank the entrance to the Memorial Union building. These are both in excellent condition. Many of the walks throughout the campus are edged with dwarf boxwood, about eight inches high, planted about fifteen years ago. Professor Peck has taken great care in landscaping the campus and in planning his plantings to break the monotony of severe buildings. He has also done it with the thought of future growth and lovely grace in years to come.

A banquet held at the Hotel Benton on the evening of April 26 was well attended. Afterward the group was entertained by a presentation of colored pictures and two short talks. Dr. Frank P. McWhorter, an excellent photographer, presented some of his colored pictures of nursery plantings and flowers, supplementing them with remarks on a new process of photography and the value of Kodachrome in getting the correct colors. He stressed the value of colored transparencies in showing customers just what a subject is like and gaining sales in this way.

Paul Doty, of Doty & Doerner, Inc., showed his fine collection of colored pictures of camellias. He showed a wide range of varieties, including some rare types. His object in making this collection is to trade with other growers and straighten out the nomenclature.

John Milbrath, research assistant, gave a short discussion on the cause and control of Berckmans disease, illustrating his remarks with slides. The organism believed to cause this blight, as observed at the station, is coryneum. Mr. Milbrath explained the spreading of this fungus over the plant and its method of growth, and he presented a summary of spray data obtained after one year's trial. Bordeaux mixture was highly recommended, as were some of the copper sprays, as means of control. Bordeaux mixture should be applied early in the fall and given three or four hours of drying weather so the spray will have a chance to set.

Speaking on "Spray Tolerance of Ornamentals," W. D. Edwards described an experiment at the station in which were used six varieties, with one of these as a check. Most of his work was based on oil sprays, and he stressed the importance of viscosity in the matter of injury in spraying. The more viscous the oil is, the more chance of injury.

Second Day.

The morning session April 27 was opened by Prof. Henry Hartman. Because of the absence of Frank McKennon, of the Oregon state department of agriculture, who was to speak on the quarantine situation, John Wieman, superintendent of the state nursery service, commented on this matter. He briefly reviewed the history of quarantine 37 and said: "The atmosphere here is pretty clear as to the issue at stake in quarantine 37. It is one of regulation versus safeguard by inspection at the port of entry." He pointed out the difference between the two; the first includes quantity limitations that must be subject to inspection or subject to treatment, and the latter is supposed to be limited to the capacity that the bureau of entomology can inspect. Regarding the large appropriation Congress is being asked for to fight the Dutch elm disease, Mr. Wieman called attention to the inconsistency in asking for such an appropriation and then tolerating a relinquishing and a weakening of the quarantine which guards against such disease.

Prof. George R. Hyslop also commented on quarantine problems, their difficulties and their relationship to the movement of commodities between states. He also referred

to the foreign quarantine as it exists in quarantine 37 and urged nurserymen to keep constantly in the foreground and in close touch with the situation in connection with quarantine problems.

Dr. S. M. Zeller brought out several facts of interest in connection with "Virus Troubles of Rubus" as to ways of infection, symptoms and means of eradication. This was illustrated by slides. The state of Oregon is comparatively clean from virus troubles; they are under control to the point of eradication.

Insects.

In connection with the research work being carried on at the experiment station, W. D. Edwards told of some of the recent developments in the control of insect pests which often affect nursery stock throughout the country. Cotoneaster webber, holly bud moth, lilac leaf roller, spittle bug and the satin moth were all described as to method of growth and infestation of plants and characteristics. In controlling cotoneaster webber it was suggested to use a light oil and spray in the spring as soon as the first sign of activity is noted. Out of three tests, Aresket 300 gave the best control of holly bud moth with an average of 96.30 control of injury.

The lilac leaf roller, which destroys the ornamental value of lilacs, can be most easily checked by a two per cent nicotine dust on the plant, although anything containing nicotine is effective. In controlling the spittle bug, which is a sucking insect, a power duster was recommended, using hoods to confine the dust about the plants. From their observations at the station, Mr. Edwards recommended one of the rotenones, such as cube, derris, timbo, or devil's-shoestring, be used at the

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strength of one-half per cent with a carrier in this power duster.

A preliminary report on the storage of rose plants was given by Prof. Henry Hartman, but since these plants were just recently set out, no definite report could be made. On these tests an even temperature of 31, 34 and 37 degrees was maintained with a varying humidity, besides common storage, which is much like the outdoor storage. Best results were obtained from plants cut back and kept at 31 degrees and forty and fifty per cent humidity. In these there was no dieback, shrivel or mold, and all were perfectly dormant. With just a slight rise of 3 degrees in temperature, there were some dieback and a slight mold, which increased with the rise in temperature. Professor Hartman said that he hoped to make a more complete report after it is observed how the plants grow after being set out.

The matter of defoliation has long been an interesting question and recent experiments with roses and holly were presented by Elmer Hansen. He mentioned that ethylene gas, which is given off by some fruits, particularly apples and pears, has been found effective for defoliating. In the close presence of this gas, roses and holly will both defoliate. Mr. Hansen presented actual tests which he had been making, showing defoliation, and he explained the difference in the action of the rose and holly in this breakdown.

"The Lawn Grass Seed Situation," as discussed by Prof. G. R. Hyslop, brought out the fact the Oregon grows a variety of grasses and some fine ones for lawn purposes. One of the first bent grasses discovered here and one of the most desirable ones was the Seaside bent. Later there developed Astoria bent and Highland bent, each of which has a distinct part in the lawn program of the northwest. Professor Hyslop pointed out the value of each of these, their special adaptations and trends of growth. Seaside bent is fine for golf putting greens, particularly where there is plenty of maintenance. Astoria bent is one of the best of the lawn grasses and is used to some extent on fairways and putting greens. The third type of bent grass, Highland bent, is also popular.

Professor Hyslop told of the seed certification program and the requirements for these various grasses. Since the passage of the recent Oregon seed

law, which, among other things, made it necessary that all lawn mixtures be analyzed, and if the certification program is continued, Professor Hyslop said he thought it was possible that within the course of a few years there would be a certified lawn grass mixture put on the market, if the demands call for it. Other lawn grasses are grown in Oregon; he told of many fine fields of Kentucky blue grass, which makes a fine dense turf. The Klamath county blue grass seed has a high rating for purity with about ninety-six to ninety-eight per cent. Other types mentioned in brief by Professor Hyslop were Chewings fescue, English rye grass, rough stock meadow, clovers, all of which are often used in mixtures.

The afternoon session consisted of a demonstration of spray materials and spray equipment by Prof. W. P. Duruz and a tour of the experimental plots and plantings. Professor Duruz

in his demonstration gave a few high lights of spray materials and spray apparatus. Sulphur compound, one of the most ancient materials used in spraying, is still one of the most useful sprays of today, he said. He demonstrated the use of sulphur as a basis for other compounds which are frequently used. In using lime-sulphur, he urged nurserymen to test this carefully before use to insure against burning. Many times it is necessary to dilute the spray before use. He also described several of the copper compounds which are more commonly used and the methods of application.

Four ways of mixing the well known Bordeaux mixture were given by Professor Duruz: First, mix the two concentrated forms of bluestone and lime; second, dilute the lime and bluestone and pour them together in one stream into the container; third,

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HIGHWAY PLANTING COSTS.

[Concluded from page 14.]

cluded in the contract, and were told that it was not necessary. You were delayed, and the work progressed along until December. The rest of the seeding was mulched and was in good condition in the spring, but the one piece that was seeded first was gone. Had you met the requirements and were you entitled to your money, or should you be required to reseed?

I am not blaming anyone for this situation, but it is one of the things which should be provided for in some way. If I were to make a suggestion for handling highway contracts, it would be that the preparation of the ground for planting and seeding be included in the first contract for building the road, and be required of the road contractor, who has all the equipment for this type of work already on the job. Sufficient inspection should be made to see that he uses suitable topsoil and does not bury stones which will interfere with the later seeding. I believe that the tendency of the highway departments is to adopt this system.

Then, all contracts that are let directly to landscape contractors should not be let until it is positively known that they can start their work and finish it in the suitable season. A reasonable time can be set for the work, and then if the contractor does not finish his work on time he has no one to blame but himself.

It should be understood and stated plainly that the contractor must agree to replace any stock that dies and reseed any areas not up to requirements at a reasonable time after the completion of his work.

I have not seen any estimates of the highway department which have been made in recent months, so that I am not qualified to express an opinion as to whether they are high enough to be in line with present costs or not. Up until last year, estimates made by highway engineers were not far out of line if the contractor got nothing but favorable breaks; if he encountered a few of the many obstacles I have discussed, his profits were wiped out and he was lucky not to take a loss. If he had favorable weather, did not have any washouts, did not encounter any

excessively dry summers nor extremely cold winters, did not have to hold up his work and did not meet any other unexpected obstacles, he would have made a fair profit. Unfortunately, it is almost too much to expect to avoid all these things. I believe estimates should be liberal enough so that if a contractor does find favorable conditions he will make a good profit, and if not, he will have some recompense. Of course, under present conditions, estimates should be higher than formerly unless, as I have suggested, a corresponding reduction can be made in certain requirements.

Now, I believe I can anticipate exactly what those in charge of highway planting will say, and I certainly do not blame them. They will say that if their estimates are too low, why do we nurserymen bid even lower? There is no answer that is quite satisfactory. At the start, we were all deceived in what we imagined the costs would be. We estimated that with our usual way of doing the work, there ought to be a good profit at a lower figure. I also believe that we could have made money if we had been permitted to take our own men. Again, these jobs came into being when there was not much doing in any kind of business. Nursery stock was cheap and everyone was after any kind of busi-

ness he could get. Competition was keen, and we bid in a way that later proved unwise. That most of those who bid on these jobs at the start came to that conclusion is indicated by the fact that most of them dropped out after they tried a job or two. A good many later jobs have gone to those bidding for the first time.

We all know that strict regulations are necessary to insure the state's receiving the full value of its money. I realize that when an appropriation for a certain undertaking is made, especially if it is a federal job, it is probably next to impossible to get any additional funds to pay for unforeseen losses which may occur and for which the contractor is not responsible.

While in the first year or so of this work we had some differences of opinion with some of the persons in authority, at present we have the best coöperation and consideration. We appreciate this and thank all those connected with highway work for it.

LEAF-ROLLERS are serious enemies of oaks. They and cankerworms frequently weaken oaks to such an extent that attack by the two-lined chestnut borer follows. One or two defoliations or the destruction of the leaves of oak may result in borer invasion.

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BERBERIS THUNBERGII, Japanese Barberry

	Per 100	Per 1000
3 to 6-in. seedlings	\$0.40	\$ 3.00
6 to 9-in. seedlings .....	.60	5.00
9 to 12-in. seedlings	1.00	8.00
12 to 15-in. seedlings	1.50	12.00

LIGUSTRUM AMURENSE, Amoor Privet North

Lining-out grade, 6 to 15 inches	\$0.60	\$ 5.00
6 to 12 ins., C., 2 branches up .....	.70	6.00
12 to 18 ins., C., 2 branches	1.25	10.00
12 to 18 ins., 3 branches up	2.00	15.00
18 to 24 ins., 2 branches	3.00	25.00
18 to 24 ins., 3 branches up	2.50	20.00

SPIRAEA VANHOUTTEI

6 to 12 ins., 1-year, C.	\$0.50	\$ 7.00
12 to 18 ins., 1-year, C.	1.25	10.00
18 to 24 ins., 1-year, C.	1.50	12.00
2 to 3 ft., 1-year, C.	2.50	20.00
18 to 24 ins., hedging	2.00	15.00
2 to 3 ft., hedging	3.00	25.00

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CHARLIE CHESTNUT.

[Concluded from page 12.]

But that incident begin to open our eyes.

Then a day or two after we got a bill from the F. & M. Nursery for a whole lot of different stuff delivered to Jake McSnipe and charged to Emil. Altogether the stuff that turned up that spring charged to Emil was \$518.00.

We found that Jake would always make 2 contracts, a phony one which he give to Emil and another one which always included some extra trees and bushes which he got some place else and had charged up to Emil.

Not long afterwards when Jake didnt show up we opened the box and then we seen how it come about that Jake got so many orders. We figgered out that he went around and spotted a prospect for a job and then he made 2 bids on it by mail. He had two kinds of printed letter-heads. One said "Ace Landscape Co." and the other "Square Deal Nursery". He would make up 2 plans and quote high prices on each. Then in a few days he would drop in with a plan and price at about half the cost. He had copies of all these letters in the box. Generally he was so low he got the order.

At first Emil was worried about the whole thing but the spring went and summer come and we didnt see hide nor hair of Jake.

One day we figgered out how we stood on the deal. The sales was doubled alright, so Jake would have had 20% coming.

Here is the way it come out:

Total amount of Jake's orders.....\$6,000.00
Jakes 20% which he never got.....\$1,200.00
Less cash advances.....\$400.00
Stock charged to Emil.....\$18.00
One 2nd hand ford coup.....300.00

\$1,218.00

Emil always claimed he was out \$18 on that whole deal but I sure would hate to offer Emil \$75 on that coup.

As we sat there in the office thinkin back over the deal Emil says that was the biggest spring we ever done in the landscape dept. and even at that he says it wasnt any more of a crazy way to get business than some of our competitors is up to.

It sure takes a lot of figgerin to get ahead landscapin for a livin dont it, I says to Emil.

ELBERTA PEACH TREES

1,000 1-year . . . 9/16 to 11/16-in. . . at 14c each
15,000 1-year . . . 5/16 to 7/16-in. . . . at 6c each
10,000 June buds 2 to 3 ft. . . . at 4c each
5,000 June buds . . 18 to 24 ins. . . at 2½c each

All in storage and in excellent condition.
Trees shipped same day order received.

150,000 Everbearing Strawberry Plants

GEM and MASTODON

\$4.00 per 1000

FAIRFAX — DORSETT — PREMIER

and other varieties in quantity lots at low prices.
All fresh dug plants shipped promptly on order.

*Buy now and fill your later orders with
that famous Bountiful Ridge stock.*

Order direct from this advertisement and submit list for quotations on other items wanted.

BOUNTIFUL RIDGE NURSERIES, Princess Anne, Md.

Taxus Cuspidata Capitata

— UPRIGHT YEW —

The hardiest and best of the evergreens. Thrives in all locations. Requires little attention. Virtually free from pests. Shears to any desired effect. Transplants easily. Ranks as tops for hedging purposes.

From the largest block of Upright Yews in America, we supply well grown, well furnished stock, each free with an individual leader.

PRICES AND TERMS:

Size	Each	10	100
2½ to 3 ft.	\$ 2.50	\$ 22.50	\$200.00
3 to 3½ ft.	3.00	27.50	250.00
3½ to 4 ft.	4.50	40.00	.....
4 to 4½ ft.	5.50	50.00	.....
4½ to 5 ft.	7.00	65.00	.....
5 to 6 ft.	12.00	100.00	.....
6 to 7 ft.	17.50	150.00	.....

5 at 10 rate—25 at 100 rate.

Larger sizes and quantity lots priced on request.
Packing and boxing charges additional. All prices f.o.b., Rutherford, New Jersey.
Order a carload. Save packing and reduce freight charges.

Visit our nurseries and greenhouses.

BOBBINK & ATKINS RUTHERFORD NEW JERSEY

Catalogues or quotations on other needs as requested.

STRAWBERRY ACREAGE.

The total acreage of strawberries for harvest this season amounts to 187,260 acres, fourteen per cent larger than the relatively small acreage of 1937, but about the same as the 1927-36 average. The 1938 acreage in each group of states is larger than that of a year earlier. In the early states acreage is about

the same as average, in the second early and intermediate states acreage is somewhat smaller than average, but in the late states acreage this year is indicated to be the largest on record. Extremely heavy yields were indicated April 1 in most of the early and second early states, and the total production of strawberries in these groups of states is expected to be well above average.

A. A. N. News

A. A. N. CHAPTERS.

All applications for charters have received attention and now twenty-one chapters of the American Association of Nurserymen have been formed. In addition to those noted below, additional chapters are expected to be formed comprising the southeastern states, Texas, Oklahoma and Arkansas, Kansas, the Dakotas and the state of Washington. These chapter organizations are expected to be completed by the time of the Detroit convention, and will make the number of chapters then twenty-seven, including the entire country with the exception of the Rocky mountain states, where nurserymen are few and far between. Chapters for which charters have been granted are listed as follows by Secretary Richard P. White, including number and name of chapter, region in which it is to be included and date of granting charter:

No.	Name	Region	Date Granted
1	Ohio	Central	Dec. 2, 1937
2	Michigan	Central	Dec. 2, 1937
3	Illinois	Central	Dec. 2, 1937
4	Tennessee	Southern	Feb. 10, 1938
5	New England	Eastern	Mar. 3, 1938
6	Del-Mar-Va	Southern	Mar. 3, 1938
7	Kentucky	Southern	Mar. 8, 1938
8	Pennsylvania	Eastern	Mar. 3, 1938
9	New Jersey	Eastern	Mar. 3, 1938
10	Iowa	Western	Mar. 10, 1938
11	Indiana	Central	Mar. 16, 1938
12	Oregon	Pacific Coast	Mar. 18, 1938
13	Allied (New York)	Eastern	Mar. 28, 1938
14	New York State Nurserymen's Chapter for Western New York	Eastern	Mar. 28, 1938
15	Wisconsin	Central	Mar. 28, 1938
16	Missouri	Western	Apr. 18, 1938
17	Virginia	Southern	Apr. 18, 1938
18	Long Island	Eastern	Apr. 18, 1938
19	Minnesota	Western	Apr. 18, 1938
20	Nebraska	Western	Apr. 18, 1938
21	California	Pacific Coast	Apr. 18, 1938

U. S. CHAMBER DELEGATES.

To represent the American Association of Nurserymen at the annual meeting of the United States Chamber of Commerce, May 2 to 5, President E. L. Baker has appointed Robert Pyle as counselor and Lester C. Lovett and A. J. Jennings as delegates, also R. P. White as substitute counselor and A. F. Meehan and William Flemer, Jr., as substitute delegates. Subjects of importance to nurserymen as well

as business in general will come before the meeting, including government competition with business, wages and hours legislation, federal licensing of business, taxation, reciprocal trade agreements, etc.

AGRICULTURAL BUDGET.

While appropriations for the Department of Agriculture, the Agricultural Adjustment Administration and their related agencies during the fiscal year beginning next July 1 run in excess of \$951,000,000, as the bill was reported by the House appropriations committee, over half of that sum is for benefit payments to farmers and administration of the new farm act, and other huge sums are allotted for surplus commodity purchases, soil conservation service, roads, etc., so that the appropriations for regular departmental activities amount to chicken feed in comparison. The appropriation for the bureau of plant industry was cut from \$4,909,048 for the current fiscal year to \$4,471,675. The bureau of entomology and plant quarantine was cut from the current \$5,711,398 to a total of \$5,407,967.

While the House committee allowed an increase of \$12,587 from the budget estimate for the maintenance of the national arboretum, the funds available for the next year amount to \$54,587, against \$122,000 last year. A cut of \$26,000 was imposed upon the bureau of entomology and plant quarantine to eliminate vehicular inspection around the fringe of the Japanese beetle quarantine area. Total cuts of \$82,371 partly by the budget and partly by the House committee were made in the Dutch elm disease eradication program. Moreover, a reduction of \$24,400 was given the bureau of entomology and plant quarantine for forest insect investigations, which will eliminate the possibility of studies to determine the relation of insects to the Dutch elm disease.

An increase of \$29,421 was allowed under title 4 of the Clarke-McNary act to provide for additional payments for the cooperative distribution of forest planting stock. This raises the appropriation to \$100,000, which is the maximum authorized by the act. Some of this money will go to the states of Missouri and Illinois, which do not

have Clarke-McNary nurseries at the present time, but are expected to qualify for them this year by the appropriation of state funds on a matched basis, according to R. P. White, secretary of the A. A. N. Most of the other changes in the appropriation for these two bureaus represent little or no change from the current fiscal year's budget.

NEW WAGE-HOUR BILL.

A new bill regulating wages and hours has been proposed, bearing the name of the chairman of the House labor committee. Under the Norton bill, Congress would set maximum weekly hours of work at forty-four and minimum wages per hour of 25 cents during the first year under the legislation. These limits would decrease and increase respectively until the standard hour work week reached forty hours and the hourly rate 40 cents.

This proposal differs from the Black-Connery bill passed by the Senate in that no discretion is vested in a board or individual to determine wages and hours. The Secretary of Labor is merely given power to determine which industries now maintain such low standards as to require the higher wages and hours restriction provided for in the proposed measure.

The new bill eliminates wage differentials and so has aroused solid southern opposition. On that account, it is felt in Washington that the administration cannot afford this controversial matter to reach the floor this session, as it will openly split the Democratic party again. Furthermore, the introduction of the bill would materially lengthen the current session, which is not desired by congressmen in this election year. The division in the rules committee is such that four Republicans hold the balance of power, and the bill may get on the floor of the House unless the administration requests that it be tied up in the committee. Richard P. White, secretary of the A. A. N., states that further action on the bill is not looked for, but under present political conditions anything may happen.

The new bill carries with it a satisfactory definition for agriculture, so that nurserymen will be protected:

"Agriculture" includes farming in all its branches and among other things includes

SHADE TREES

	Per 10	Per 100
Ash, Am. White, 10 to 12 ft.	\$7.50	\$65.00
Ash, Am. White, 3 to 3½-in. cal.	15.00	125.00
Catalpa Bungei, 5 to 6 ft.	7.50	65.00
Elm, American, 10 to 12 ft.	7.50	65.00
Elm, American, 1½ to 2-in. cal.	9.50	80.00
Elm, American, 2 to 2½-in. cal.	12.50	115.00
Flowering Crab, 3 to 4 ft.	4.00	
(Edyl, Floribunda, Hops, Sargentii)		
Japanese Cherry, 3 to 4 ft.	7.50	65.00
Japanese Cherry, 4 to 5 ft.	8.50	75.00
Jap. Weeping Cherry, 1-yr.		
5 to 6 ft.	13.50	125.00
Maple, Norway, 8 to 10 ft.	9.50	85.00
Maple, Norway, 10 to 12 ft.	11.00	100.00
Maple, Norway, 3 to 3½-in. cal.	20.00	185.00
Oak Pin, 2 to 2½-in. cal.	25.00	
Oak Pin, 2½ to 3-in. cal.	40.00	
Plane, Oriental, 2½ to 3-in. cal.	30.00	
Poplar, Lombardy, 6 to 8 ft.	2.50	20.00
Poplar, Lombardy, 8 to 10 ft.	3.00	25.00
Poplar, Lombardy, 10 to 12 ft.	4.00	35.00

Write for prices on other varieties and sizes.

WAYNESBORO NURSERIES, INC.
Waynesboro, Virginia

LINING-OUT STOCK

For shipment June 15, 1938

Juniperus Pfitzeriana

Rooted cuttings, 6 to 8 ins.	\$10.00 per 100
Rooted cuttings, 6 to 8 ins.	90.00 per 1000
Out of 2½-in. pots, 6 to 8 ins.	12.50 per 100
Out of 2½-in. pots, 6 to 8 ins.	110.00 per 1000

PAUL OFFENBERG NURSERY CO.
1988 E. Livingston Ave. Columbus, O.

TAXUS

Cuspidata Capitata

1½ to 9 feet.

Carloads or truckloads only.

VISSER'S NURSERIES

Springfield Gardens, L. I., N. Y.

PRIVET and BERBERIS

Splendid Stock

Write for Special Quotations

LESTER C. LOVETT
Milford Delaware

BULLETIN No. 4

Containing greatly reduced prices, just off the press. Ask for it. Also ask for the Extra Special "You Can Now Tell Your Customers That —"

C. R. BURR & COMPANY, Inc.
Dept. A, Manchester, Conn.

Canterbury Boxwood

Buxus suffruticosa and *B. sempervirens*.
Selected uniform plants; bushy and foliated to center; masses of fibrous roots. Finished specimens from 4 inches up, ready for quick shipment. Prices lower, plants larger. Ask for special list.
CANTERBURY, Box A, Easton, Md.

the cultivation and tillage of the soil, dairying, the cultivation, growing and harvesting of any agricultural or horticultural commodities, the raising of livestock, bees, foxes or poultry, and any practices performed by a farmer or on a farm as an incident to such farming operations, including preparation for market, delivery to storage or to market or to carriers for transportation to market.

"Employee employed in agriculture" includes individuals employed within the area of production engaged in storing for the farmer, preparing (but not commercial processing) or packing agricultural or horticultural commodities in the raw, natural or dried state, but does not include employees of transportation contractors engaged in transportation of farm products from farm to market.

OREGON MEETING.

[Concluded from page 17.]

dilute the lime first and pour into spray tank, then while agitation is going on, pour in the bluestone; fourth, the third method may be reversed, using the bluestone first and then pouring in the lime. He also mentioned the use of oil sprays, the importance of viscosity and the test of purity. This type of spray must be mixed with an emulsifier for winter and summer spraying. Various appliances and apparatus were shown with this demonstration with special reference made to the knapsack types.

During the tours taken later in the afternoon of the experimental plots and plantings, visitors were given an opportunity to see the actual test plants and experiments described previously at the meeting and shown on slides.

At the bulb gardens, Frank P. McWhorter explained findings on the mechanics of tulip breaking. He said that this breaking is explained as being the result of two viruses which mechanically are much alike but on another basis are extremely different; one has the property of removing color and the other has the property of adding color. Mr. McWhorter said that these phenomena are explained as physiological mixture between the two viruses. If the adding factor is six times the removing factor, then a balance is maintained in the breakage of the colors. It was quite interesting to note the striking color effects caused by this mixture of viruses and the difference this breaking made in the appearance of a known variety as compared with a normal healthy plant.

Other experimental plots were viewed with a thought toward previous reports on experiments and results on those plantings.
R. R. H.

LINING-OUT STOCK

Grafted plants from 2½-in. pots

	10	100
Acer palmatum aash-beni.	\$3.50	\$30.00
Acer dissectum atropurpureum.	3.00	25.00
Thuja occ. Douglasii spiralis.	2.25	20.00
Thuja occ. elegantissima.	2.25	20.00
Thuja occ. lutea Mary Corey.	2.25	20.00
Thuja occ. pyramidalis.	2.25	20.00
Thuja occ. Rosenthalii.	2.25	20.00
Thuja occ. Wareana (sibirica).	2.25	20.00
Thuja orientalis aurea nana.	2.25	20.00
Taxus media Brownii.	2.75	25.00
Taxus media Hatfieldii.	2.75	25.00
Taxus media Hickelii.	2.75	25.00

SEEDLINGS

	100	1000
Juniperus virginiana, 3 to 6 ins.	\$3.00	\$25.00
Pinus sylvestris, 4 to 6 ins.	2.00	15.00
Pseudotsuga Douglasii, 4 to 6 ins.	2.50	20.00
Syringa vulgaris, 4 to 6 ins.	2.00	15.00
Thuja orientalis, 3 to 6 ins.	1.50	10.00
Thuja orientalis, 8 to 12 ins., transpl.	5.00	40.00

Hess' Nurseries

Mountain View, New Jersey

Jackson & Perkins Company

Wholesale Nurseries

NEWARK
NEW YORK STATE

LINING-OUT STOCK

Connecticut Valley Groen

Seedlings - Rooted Cuttings
Evergreen and Deciduous

Write for list

C. E. WILSON & CO., INC.
Manchester, Connecticut

PRINCETON NURSERIES

of PRINCETON, N. J.

SUPERIOR

Hardy Ornamentals

QUALITY NURSERIES

Allenwood, Pa.

Largest Nursery in Central Pennsylvania

Special Prices

on

Hemlock—Yew—Arbor-vitae

GENERAL NURSERY STOCK

Specimen and Lining-out

FAIRVIEW EVERGREEN NURSERIES

Fairview, Erie Co., Pa.

News of the Trade

CALIFORNIA NOTES.

Monthly meetings for gardeners in the San Fernando valley are scheduled to be held at the Magnolia Nursery, 12115 Magnolia boulevard, under the direction of James Beattie, the owner and an authority on landscape gardening. It is planned to service the many new home owners in this district, where growing conditions are different than in other areas of the Los Angeles metropolitan district.

Visitors to the outing and sports show at the Southern California Automobile Club building were given an opportunity to see examples of fine landscaping in the large patios where exhibits were placed, although there were no commercial nursery or landscaping exhibits. The U. S. forest service had a well planned exhibit, showing many native trees and shrubs.

Grieve & Jonker, operating a garden supply and nursery business at Pasadena, report an increasing trade with the warm weather. Flood damage to fine gardens in Altadena brought considerable replacement work to this firm.

A warning has been issued by Horticultural Industries, Inc., against the practice of double billing, which under the California law constitutes a secret rebate and is prohibited. The purchaser is protected to the extent of being permitted to void the entire transaction should he choose to do so.

The Clarke Nursery, San Jose, had on display from April 22 to 26 about forty named varieties of lilacs, cut and assembled at its annual lilac show. The firm also showed an interesting collection of new plants.

The Central California Nurserymen's Association, at its dinner meeting at Los Gatos, heard Assemblyman Cottrell talk on the effect of politics on business. He stressed the importance of getting the right kind of men elected to the state legislatures and to Congress.

In preparation for the \$1,500,000 horticultural and landscaping program for Treasure Island, the first order for topsoil to cover the 400-acre man-made site of the 1939 Golden Gate International Exposition has been placed. The contract has been awarded to Eaton & Smith on the basis of \$1.35 per cubic yard. It is estimated that approximately 100,000 cubic yards of loam will be required.

At the meeting of the Southern California Horticultural Institute scheduled for April 21 at the Mayfair hotel, Alfred Carl Hottes, associate editor of Better Homes and Gardens, was the guest speaker, on the subject, "I Think I Know Your Customer." Secretary Lou Johnson reports that the horticultural forum is building in interest from one meeting to another. Four beautiful trophies were exhibited at the preceding meeting and such displays will, no doubt, stimulate further interest.

Edward H. Rust Nurseries, Pasadena, announce the tenth annual cactus show to be held there May 13 to 15.

The latest report of the department of commerce shows that the nursery business heads the increases in California retail sales with a gain of fifty-three per cent over January, 1937. Of the fifty-three members of Horticultural Industries, Inc., reporting, forty-four

reflected an increase, eight showed a decrease and one broke even. Every retail nurseryman is urged to cooperate by returning the card sent out by the department.

SOUTHWESTERN NOTES.

Vertus Crotts, formerly associated with his father in the Twin Acres greenhouse and nursery, is now in the employ of the Moore Seed Store, Ottawa, Kan.

Elmer Sheppard has moved from 5027 Bellefontaine, Kansas City, Mo., to Cupertino, Cal., which is thirteen miles west of San Jose. His box number is 51.

Howard Huber is establishing a nursery and lawn maintenance business at Manhattan, Kan.

According to a newspaper dispatch of April 19, O. F. Garland, owner of Garland's Lakeview Nursery, and his family, Oklahoma City, Okla., were terrorized and robbed the night before. Growling, "So this is how you rich folks live," the intruders, whom Garland described as "country boys," lined up Mr. and Mrs. Garland, their 16-year-old daughter Mary, a 74-year-old hired man and three negro servants with a pistol and a .22 caliber rifle, bound them with rope and silk stockings and escaped with \$140 and a diamond ring. Mary freed her hands and cut the others' bonds after the pair tore the telephone from the wall and departed.

SNEED MEETS MISFORTUNES.

The saying, "Misfortunes never come singly," was impressed last month on J. Frank Sneed, owner of the Sneed Nursery Co., Oklahoma City, and president of the Oklahoma A. A. N. chapter. On the day before the snowstorm hit Kansas, he was driving southwest out of Junction City, Kan., when he met a trailer truck on a hill with a reverse curve. To avoid hitting the truck, the driver of his car pulled toward the ditch, and because of the icy pavement the car spun around several times and was turning over on one side when it struck an iron post that caused the car to right itself. The car was badly damaged, but Mr. Sneed luckily re-

ceived only a few bruises. When the car was pulled out of the ditch by a wrecker and repaired, Mr. Sneed proceeded to McPherson, Kan. That night it snowed until all roads were impassable, but by the afternoon of April 8 he was able to reach Wichita. Upon checking in at the hotel, he received a message about the death of his mother in south Texas. All connections by telephone were out in all directions. He caught the first train to Oklahoma City and arrived at 2 o'clock in the morning to find his wife sick in bed, with a special nurse.

While matters have resumed normal, Mr. Sneed felt the shock of his mother's loss and the attendant incidents, though she was quite old.

Business at the nursery slowed down after the snowstorm, but as Oklahoma received plenty of moisture, the trees and plants are beginning to show signs of growth after the freeze, and business is expected to pick up for the next month.

WHOLESALE and retail business alike are about twenty per cent ahead of last year, says L. C. Bobbink, of Bobbink & Atkins, Rutherford, N. J., and prospects are favorable for a good spring.

MANY improvements and an extensive planting program are being planned for the Roselawn Nurseries, Columbus, Neb., by George Doll, president of the firm. A new irrigation system will be installed and a storage building constructed. Vernon Meyer, Fremont, has been added to the staff in the propagation division.

20,000 ELMS, American, Vase, Moline, up to 4 inches, transplanted.

4,000 MAPLE, Norway, up to 2 1/2 inches, transplanted.

2,000 WILLOW, Thurlow, 8 to 10 ft. and 10 to 12 ft.

10,000 SPIRÆA, Vanhouttei, 3 to 4 ft. and 4 to 5 ft.

Send for list on many other items.

C. M. HOBBS & SONS, Inc.

Bridgeport, Indiana

Largest Nursery in Indiana. Established 1875.

SAVIN JUNIPER

6000 B&B 3 times transplanted.
15 to 18 ins. \$0.50 18 to 24 ins. \$0.65
24 to 30 ins. .85 30 to 36 ins. 1.00

HORIZONTALIS JUNIPER

18 to 24 ins. \$0.60 24 to 30 ins. \$0.75

HIBERNICA JUNIPER

18 to 24 ins. \$0.40 24 to 30 ins. \$0.50
30 to 36 ins. .60 3 to 4 ft. 1.00

Elm, American, 1 1/2 to 3-in. cal.

Betula Populifolia, 1 1/2 to 3-in. cal.

Prices on application.

All stock first-class nursery-grown.

THE HIGHLAND NURSERIES

Johnstown, N. Y.

"A friendly, efficient sales service"

E. D. ROBINSON
Sales Agent

38 So. Elm St., Wallingford, Conn.
P. O. Box 285

Representing

Adams Nursery, Inc.
Bristol Nurseries, Inc.
Barnes Brothers Nursery Co., Inc.
North-Eastern Forestry Co., Inc.
A. N. Pierson, Inc.

A complete line of well grown, hardy plant material

THE WESTMINSTER NURSERIES

WESTMINSTER, MARYLAND

Fruit and Shade Trees, Evergreens, Shrubbery, all sizes up to 7 ft. California Privet, 3 to 7 ft., in grades. Heather, assorted, 8 to 18-in. clumps. Evergreen Privet and Barberry, Perennials, etc.

We have a very complete line.

Trade list sent on request.

FRUIT TREE SEEDLINGS

West-A-Grow Per 1' 00
Apple, 3/16-in. \$12.00
French Pear, 3/16-in. 12.00
Myroslan Plum, 1/4-in. 12.00
These are well graded, sturdy, healthy seedlings, on which we do our own budding and are sure to please. Supply limited.

C. R. BURR & COMPANY, INC.

Dept. A—Manchester, Conn.

FINAL CLOSE-OUT

Caragana Arborescens

First-class, dormant (no storage), 2-year seedlings. Power-dug, plenty of roots, larger sizes well branched.

	Per 1000	Entire lot
11,000 12 to 18 ins.	\$10.00	\$35.00
12,000 18 to 24 ins.	14.00	84.00
15,000 2 to 3 ft.	30.00	150.00
1,000 3 to 4 ft.	35.00	.....

In surplus—
We have priced per 10:
Schwedler's Red-leaf Maple, 6 to 8 ft., \$12.50.

Chinese Elm, 5 to 6 ft., \$2.50; 6 to 8 ft., \$3.50.

Russian Olive shrubs, 2 to 3 ft., \$1.50; 3 to 4 ft., \$1.75; 4 to 5 ft., \$2.50.

Spiraea Billiardii (white), 3 to 4 ft., \$1.50; 4 to 5 ft., \$2.00.

Virginal Mock Orange, heavy 3 to 4 ft., \$3.00.

Physocarpus Opulifolius, heavy 4 to 6 ft., \$3.50.

Potentilla Fruticosa, dwarf everblooming shrub, yellow flowers like small single roses; hardy, grows in sun or shade. Try this for something "new and different." 12 to 15 ins., \$1.50; 15 to 18 ins., \$2.00; 18 to 24 ins., \$2.50.

F.o.b. Fort Collins. Packing at cost.
FRANK M. RICHARD, JR.
P. O. Box 363 Fort Collins, Colo.

MAY FIRST SPECIALS

- Pfitzer's Juniper liners
- Norway Spruce liners
- Baby Phlox liners
- Good assortment shrubs in cold storage.

SHERMAN NURSERY COMPANY

Charles City, Iowa

WILLIS NURSERY Co.

Wholesale Nurserymen

Write for Catalogue

OTTAWA - - KANSAS

MOUNT ARBOR NURSERIES

E. S. Welch Est. 1875 Shenandoah, Iowa

A COMPLETE LINE OF GENERAL NURSERY STOCK—ASK FOR TRADE LIST

Send us your WANT LIST for quotations
"One of America's Foremost Nurseries"

HILL'S EVERGREENS

Complete assortment of lining-out sizes
Also larger grades for landscaping
Send for our wholesale catalogue

D. HILL NURSERY CO.

EVERGREEN SPECIALISTS
Largest Growers in America
Box 402 DUNDEE, ILLINOIS

**SAVE MONEY**

No. 1 Shrubs, 2 to 3 ft., 6c up. Also Fruit Trees and Evergreens at new low prices.

Write for our surplus list and make big savings.

MALONEY BROS. NURSERY CO.
Est. 1894 Danville, N. Y. 400 acres

COLUMBUS LANDSCAPERS MEET.

The April meeting of the Columbus Landscape Association was held in the Charminel hotel, Columbus, O., April 12.

Prof. Alex Laurie, of Ohio State University, was asked to tell his impressions of the recent St. Louis flower show. He spoke in particular of the Ozark garden, stating that it was one of the best executed gardens he had ever seen. Also mentioned favorably were the fine formal azalea garden shown by the Missouri Botanical Garden and the church of roses staged by W. H. Kruse, St. Louis. Professor Laurie spoke of the judging system followed at this show, whereby any gardens containing greenhouse plants displayed in an outdoor setting were either disqualified or cut heavily on points.

Starr Winsor, of the bulletin committee, reported on the progress of the informative bulletin which the association is putting out. He said this publication is about ready for the printer and awaited the approval of the group. The pamphlet as presented showed the result of long and careful planning, and the speaker stated that most of the credit must go to Walter Tucker for the many hours of untiring effort expended. Excerpts were read from the bulletin, particularly from the portion which mentioned the advisability of the home builder's consulting the landscaper before building the new home. Members of the club had nothing but praise for the publication and only appeared anxious about how soon they might expect copies from the printers. Some discussion followed concerning just how distribution of the bulletin would be made, most of the group feeling that prospective new home owners and the building and loan companies would be the best outlets.

It was voted to contact one of the local papers for twelve weekly insertions to place the name of the association on the garden page of that paper. Mr. Tucker asked for suggestions to be used in writing up these ads. It was reported that work toward improving the city parks was progressing and something more definite would be known by the next meeting.

A committee consisting of Aubrey DeGraw, Howard Warwick and Bret Slemmons was appointed to bring up the matter of costs on construction and maintenance at a meeting in the future.

Secretary Speed showed an interesting group of slides, many in color, of tree moving and tree surgery. Howard Warwick brought the evening to a close with a group of slides which featured for the most part walls and walks.

SALES offices and display grounds have been opened just outside of Benton Harbor, Mich., by Murry Jones, of Nagle's Nursery, Benton Harbor.

SALES are slightly ahead of last year at this time, though things are not moving so fast as he would like, reports Frank M. Richard, Jr., Fort Collins, Colo. But spring comes late there—a couple of inches of snow fell April 19, though the warm weather melted it the next day. After a mild winter, the few forsythias are blooming, something seldom seen in that locality because an ordinary winter kills all flower buds and often the entire plants. Most trees and shrubs are still dormant, only a few early starters beginning to leaf out.

FINE LINING-OUT STOCK

A-1 condition. Quick shipment.

	Per 100
Althwa, double red, 12 to 18 ins.	\$2.50
Barberry, Jap. green, 9 to 12 ins.	1.50
Caragana, 2 to 3 ft.	3.00
Coral-Berry, 12 to 18 ins.	1.50
Cydonia, Jap. Quince, 12 to 18 ins.	2.50
Deutzia Pride of Rochester, double white, 12 to 18 ins.	3.00
Deutzia Crenata, double pink, 12 to 18 ins.	3.00
Forsythia Fortunei, 12 to 18 ins.	3.00
Forsythia Intermedia, 12 to 18 ins.	3.00
Pussy Willow, French, 3 ft.	4.00
Spiraea Vanhouttei, 12 to 18 ins.	2.00
Weigela Rosea, 9 to 12 ins.	2.50
Clematis Paniculata, transplants.	4.00
Hall's Japanese Honeyuckle.	2.00
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Ash, White, 2 to 3 ft.	2.50
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Butternut, 12 to 18 ins.	1.50
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Elm, Chinese, 2 to 3 ft., very fine.	2.50
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Linden, American, 2 to 3 ft.	3.25
Linden, American, 12 to 18 ins.	2.00
Locust Inermis, thornless, 2 to 3 ft.	2.00
Mulberry, Russian, 2 to 3 ft., nice stock.	1.25
Russian Olive, 2 to 3 ft., very fine.	3.50
Russian Olive, 18 to 24 ins., very fine.	2.75
Redbud, 12 to 18 ins.	1.75
Redbud, 2 to 3 ft., very fine.	4.00
Tulip Tree, 2 to 3 ft., very fine.	3.00
Walnut, Black, 18 to 24 ins.	2.50

Free packing for cash. 25 at 100 rate.

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KOSTER'S BLUE SPRUCE

Greenhouse grafts

Heavy stock from 2½-inch pots
\$35.00 per 100

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Nursery Stock and Liners

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LINING-OUT STOCK B & B EVERGREENS

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South's Largest Florists and Nurserymen

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EDEN NURSERIES

Eden, New York

Pink Flowering Dogwood,
from liners to 12 to 14-ft. specimens.
Lilacs, species and hybrids.
Crabs and Flowering Cherries.
Azaleas, in many varieties for lining out.

Taxus Ovata (rare yew).
Send for our list to trade.

Kingsville Nurseries, Inc.
H. J. Hohman, Kingsville, Md.

Reviews of New Books

THE GARDENER'S OMNIBUS.

Something that can be called distinctly new and different, as well as valuable, in books for the amateur gardener is "The Gardener's Omnibus." It might have been expected that this type of vehicle would sooner or later come into horticultural literature, since it has been used for publishing reprints of books of other types.

For the great mass of material in this big book, E. I. Farrington, its editor, has drawn upon the bulletins of the Massachusetts Horticultural Society, of which he has long been secretary, and particularly on the magazine *Horticulture*, of which he has been editor during the years which it has been published by the society. The extensive activities of the Massachusetts Horticultural Society are well known. The magazine *Horticulture* is unique of its kind in this country. Mr. Farrington is widely known and greatly esteemed for the executive capacity and horticultural knowledge he has applied to both of these. He has added to his achievements by the publication of this book.

"The Gardener's Omnibus" contains 886 pages of text, including a 50-page index and over 600 illustrations. It measures 8 1/4 x 10 1/4 inches and is bound in a handsome green cloth. The type is large, with two columns to the page, so that the book is quite readable. And it is a book to be read, rather than an encyclopedic work of reference.

Most of the material consists of articles, long and short, which have appeared in the pages of *Horticulture*. Much of the material was written by the editor or his assistants. Much more came from contributors to the magazine, of the advanced amateur type or the expert professional.

These articles have been arranged in thirty-nine chapters, ranging from ten to forty pages each. Subjects of separate chapters are garden features, rock gardens, perennials and biennials, annuals, seed sowing, spring-flowering bulbs, lilies, bulbous plants for summer, roses, herbs, wild flowers, lawn construction, aquatics, hedges, ground covers, trees, shrubs, vines, winter protection, pruning and grafting, flower shows, garden labels, cut flower arrangements, photographing flowers, fertilizers, insects, tools, etc. The book offers a lot for its moderate price of \$3.75. It is published under the auspices of the Massachusetts Horticultural Society by Hale, Cushman & Flint.

NURSERYMAN TELLS HOW.

While "Planning and Planting Your Own Place" was written for the information of the home owner who does the major part of his home grounds improvement and maintenance in his spare hours, it offers a good many ideas and much information that those commercially engaged in landscape planting may find helpful. The advice is that of a professional, because the author, Louis Van de Boe has not only been engaged in private estate planting, but operates a small retail landscape nursery, on part of the farm where he was born, at

Claverack, N. Y. He grew up on that farm, but discovered after graduating from Cornell University that he was more keenly interested in horticulture than farming. For the past fifteen years he has been associated with the development of a private estate on the east bank of the Hudson river. While this has been his major work, he has found time to visit many of the gardens of the Old World and of the United States, to do investigational work and to establish the nursery mentioned. During these years his closest interest has been the planning and planting of small places.

This book of 300 pages is crammed full of practical information, and the home owner who absorbs it and makes full use of it will unquestionably have grounds to be proud of. Every phase is treated thoroughly.

The method of treatment leads the reader from the general to the detailed. The first chapter on the relation of house and grounds gives advice on the general problem, and subsequent chapters on grading, drives and walks, and lawns discuss fully the details of construction.

The chapter on ornamental uses of woody plants summarizes the general scheme, while subsequent chapters on the selection and care of woody plants and on ornamental gardens provide instruction on carrying out the plans in detail. In the discussion of various types of gardens, lists of suitable plants are given, some of them quite extensive.

A chapter on maintenance hints, one on plants for special purposes and a final one on planting plans present still more specifically data to guide the home planter. The few illustrations and sketches are selected with a view to their practical value. A general index occupies eight pages. Priced at \$4.50, the book is definitely valuable for either study or reference.

"HOW TO BE A GOOD FOREMAN."

For two important reasons nurserymen have come to recognize the necessity for well trained foremen. One is the imperative need to employ inexperienced and seasonal labor to the greatest advantage in order to meet higher rates of pay. The other is the fact that fore-

men must be made of the utmost value if they are to be retained on the pay roll the year around, though not fully required at all seasons, so that their experience and knowledge may insure proper planting jobs.

Henry Hunziker, secretary of the Michigan Association of Nurserymen, first called the trade's attention to a valuable little book to aid in training foremen. It is general in character, and anyone who seeks to use it must be ready to translate to the horticultural field the messages that primarily were written for factory hands and mechanics.

"How to Be a Good Foreman" was written by Charles Reittel, a member of the staff of an organization of management engineers, having had wide contact with foremen in many industries. It is published by the Ronald Press Co. The 186 pages include twenty chapters which are grouped under three headings.

Part 1, "The Mastery of Human Elements," includes chapters on hiring and training, getting good performance, discipline versus team spirit, working conditions, maintaining the interest of the workers and adequate wages.

Part 2, "Technical Responsibility," includes chapters on such subjects as planned production, scheduling and orders, routing regular and special orders, materials, supplies and inventories, control of tools and control of spoilage.

Part 3, "Cost and Budgetary Control," includes chapters on the foreman and accounting, standard costs, flexible budget, variances, incentives and managerial foremanship.

In an appendix are listed discussion subjects for foremen's meetings, comprising references to the various chapters. The price of the book is \$1.50. It should be helpful to those who are seeking ideas for the training of their employees.

GARDEN ANNUALS.

Heavenly Blue morning-glories bloom on the jacket of "Annals for Your Garden," by Daniel F. Foley, and with thirty-two plates in color, some of them full-page, the little book itself is hardly less gay than one could hope his garden to be. The publisher is Macmillan Co.

Ninety flowers are discussed in ninety-six pages, and the last page is an index. The notes are eminently readable, telling the history of the flower, its appearance in literature, its use in today's garden

In Big Nurseries, and in Small —

RIDGEFIELD, CONN.

April 18, 1938.

I have just read the article, "Moving Trees the Year Round," written by Mr. M. G. Copen of the Rock Creek Nurseries, which you published in your current issue.

Mr. Copen's article is the most practical and sensible that I have ever read on tree moving, and I believe it should be reprinted in not only all of the trade magazines, but in all publications read by people who have any interest in tree moving or having trees moved. We shall certainly see that all the department heads, foremen, and salesmen in our organization read it carefully, and will be very glad to file it for future reference.

OUTPOST NURSERIES, INC.
Maurice L. Condon, General Manager.

ARLINGTON, TEX.

April 8, 1938

My subscription is due, and I am enclosing a check for three years.

The many splendid articles you give us in each issue are worth many times the cost of the magazine, and each issue is read thoroughly by everyone connected with our little business. We all agree that it is the best strictly nursery journal we have ever found.

BENGE'S NURSERY,
A. C. Bengé.

Everyone reads the American Nurseryman

Thanks to our many friends, we are completely sold out of roses for this year. By the first of May we shall be ready to accept future orders for delivery in the fall of 1938 and spring of 1939.

PETERSON & DERING, Inc.
Wholesale Rose Growers
SCAPPOOSE, OREGON

New Rose TEXAS CENTENNIAL (Red Hoover)

Plant Patent No. 162

Ask for color illustration and prices.

Also for our general list of roses.

DIXIE ROSE NURSERY
Tyler, Texas

HARDY ROSES

Boxed f.o.b. cold storage at St. Louis, Mo. No additional charges.

American Pillar, Climbing Baby Rambler, Dorothy Perkins, Excelsa, Marie Gouchault, White Dorothy Perkins, F. J. Grootendorst, red, Hansa, red, Belle Foutevine, pink, Sir Thomas Lipton, double white, Sarah Van Fleet, everblooming tea-scented double pink, Rugosa Alba, single white.

Wire or write for list.

VERHALEN NURSERY CO.
Scottsville, Tex.

**HARDY
Rosebushes**
for 1938-39
HOWARD ROSE CO.
Hemet, California



WHOLESALE GROWERS

of a complete line of Nursery Stock including Fruit Tree Seedlings.

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HERBS

Pot-grown plants; over a hundred varieties. Dried Herbs for Flavoring and Fragrance. Other plants of seasonal character and with the charm of old-time gardens.

Write for Catalogue

Weathered Oak Herb Farm, Inc.
BRADLEY HILLS, MARYLAND

and the meaning of its name. The pronunciation of the botanical name is indicated and the meaning is defined. Cultural notes are simple and brief.

The arrangement is alphabetical. Preceding the list are notes on "Annuals in the Landscape" and "Starting Annuals from Seed" and a list of the All-America selections. The book is cloth-bound in green, and the price is \$1.

PENNSYLVANIA LICENSES.

The list issued March 31 by the division of nursery inspection of the Pennsylvania state department of agriculture shows licenses were issued to 721 nurseries, 259 nursery stock dealers and 36 collectors of native plant material. Only those nurseries and dealers handling evergreens, fruit trees, deciduous ornamentals, nut trees, perennials and roses are listed. The 721 nurseries listed report a total of 7,451 acres planted.

IDAHO STATE NURSERY.

Three acres of land adjoining the state prison at Boise, Idaho, have been planted with 200,000 yellow pine seeds and 100,000 yellow pine seedlings.

Franklin Girard, state forester, predicts that when the state nursery has been placed fully under way, in a year or two, it will produce a million trees annually, which will be used to reforest denuded timberlands.

Scrub oak will probably be grown at the nursery next year for transplanting on barren foothills throughout the state.

From twenty to twenty-five convicts at the prison will be kept busy working on the nursery, Mr. Girard estimated.

TO FIGHT TENT CATERPILLAR.

Ted Weir, of the Grand Rapids experiment station in Minnesota, for some time has been interested in the tent caterpillar, having looked for the eggs in the forks of the branches and other parts of the chokecherry and other tree-like shrubs favored by the pest in the woods. Recently, however, masses of the eggs, many of the colonies larger than a quarter, were found below the height of weeds growing around the trees. As this caterpillar is known to be responsible for enormous damage to tree life, nurserymen may be interested to know that clearing away weeds near nursery rows and using some control for the egg masses should do much to prevent damage later in the season.

ONE of the first companies and organizations which agreed to enter floats in the parade sponsored by the New York 1939 world's fair, traveling from Manhattan to the world's fair site at Flushing April 30, was Hicks Nurseries, Inc., Westbury, N. Y.

THE Minnesota state forester appeared before the legislative interim committee last week, urging a 5-year program of planting the 3,000,000 devastated acres either owned by or about to revert to the state. One plan calls for not less than 26,000,000 trees to be planted the first year and 20,000,000 each year thereafter for the length of the program. It is understood the committee indorsed the idea, although particulars concerning types and sources of trees have not been given out.

Portland Wholesale Nursery Co.

306 S. E. 12th Avenue
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To the Trade Only

A complete line of
Nursery Stock and
Nursery Supplies.

Catalogue sent on request.

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Wholesale Only

Our usual line of quality nursery stock, including Shade and Flowering Ornamental Trees and Specialties, Fruit Tree Seedlings and Roses.

Grown Right and Packed Right

A card will bring our list of items that will make you some money.

MILTON NURSERY CO.

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"Pioneer Nursery of the Northwest"

Fruit, Shade, Flowering and Ornamental Trees, Fruit Tree and Chinese Elm Seedlings.

Car lot advantages to all points east. Send for our Trade List.

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Wholesale Growers

Fruit, Shade, Flowering Ornamental Trees, Fruit-tree Seedlings, Roses, Etc.

Very complete line of quality stock

Catalogue sent on request.

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1436 N. E. Second Ave. PORTLAND, ORE.

Largest Fruit Tree Seedling Growers in America.

We accept growing contracts for 3 to 5 years. Quality stock. References on request.

John Holmsson, Prop.



EVERGREENS

For Seventy-four years growers of Quality Evergreens Lining-out Stock a Specialty

Write for Trade List

EVERGREEN NURSERY CO.

Established 1864 STURGEON BAY, WIS.

Gypsophila Bristol Fairy

Fine field-grown stock, fresh dug \$2.25 per 10, \$20.00 per 100.

Many other fine perennials.

HARMON NURSERY, Prospect, Ohio

Bulletins Received

Report of the chief of the Forest Service, United States Department of Agriculture, for the fiscal year ended June 30, 1937, dwells upon the number of persons employed in the country's forest lands and the possibilities for increased employment there without competition to present industry. This 54-page pamphlet, of which sixteen pages are given up to tables and index, necessarily summarizes most briefly the manifold activities of the forest service. It reports during 1936 the largest number of trees ever produced and distributed by states for planting by private land owners under section 4 of the Clarke-McNary law, the total of 35,647,809 being an increase of thirty-seven per cent over the previous year and 6,500,000 trees more than during any previous annual period. When the prairie states forest tree project was to be liquidated, June 30, 1936, 1,278 miles of shelterbelt strips had been set out, 6,474 acres of farmstead plantings established and 23,771,061 trees, cuttings and nuts planted, with an average survival of eighty-one per cent, it is reported. On that date there were 75,000,000 seedlings growing in nurseries, and this stock was used by means of emergency funds from the W. P. A.

The tenth annual report of the central states forest experiment station, Columbus, O., contains the accounts of investigations in 1937 and the program for 1938. This station is one of twelve regional stations maintained by the research division of the Forest Service. Besides reports on forest conditions and problems, as well as farm woodlands, this 46-page mimeographed bulletin contains six pages on the locust borer investigation conducted under Ralph C. Hall, of the bureau of entomology.

"Landscaping the Farmstead," by W. A. Ross and L. L. Scranton, vocational education bulletin 189 of the United States Department of the Interior, is a handsome booklet intended to help teachers of vocational agriculture in making instructions on farmstead improvement more effective by using the existing farmstead layout as a starting point. The subject matter is set forth as a series of jobs, beginning with mapping the farm home grounds and then developing a landscape plan for them. Thereafter the various parts of the planting are dealt with in separate jobs—lawn, trees, shrubs, flowers, vines, hedges, rock gardens, growing ornamental planting material and providing native plant material. Illustrations are numerous in the ninety-six pages, and they show up well on the enamel paper. For the instruction of the future farmers of America it contains much material, concisely presented, obtained from the United States Department of Agriculture and other reliable sources.

The special March issue of the "Black Leaf 40" bulletin, published by the Tobacco By-products & Chemical Corp., Louisville, Ky., tells of the uses of this famous insecticide for rosy aphid and bud moth control, leaf hopper control in orchards and other purposes. The company distributes gratis the issues of this bulletin on the control of insect pests, containing much useful information.

"Oil Sprays for Deciduous Fruit Trees by the Tank-mixture Method," circular 345 of the California agricultural experiment station, Berkeley, by Arthur D. Borden, associate entomologist at the station, under date of January of this year presents in condensed form the information originally published in bulletin 579 on this subject, also including considerable new data. It briefly reviews progress made in the past ten years in the development of oil sprays in California deciduous fruit orchards and points out the advantages of the tank-mixture method. The most important problem in this method is to secure the agitation necessary to give a uniform mixture in the spray tank, particularly in the comparatively low-powered spray equipment of deciduous orchards. Detailed description of the flat square-end agitators used to replace the propeller type to accomplish this purpose is given. The composition of the spray oils so employed and the dosage recommendations apply to California conditions.

"American Grape Varieties," issued as circular 437 by the United States Department of Agriculture under date of September, 1937, and written by I. W. Dix, principal scientific aide, and J. R. Magness, principal pomologist of the division of fruit and vegetable crops and diseases, describes and evaluates the principal varieties of bunch or euveitis grapes that have been developed in this country from species native here or through hybridization of such species with varieties of *Vitis vinifera*, the grape of the Old World and the base of the grape industry in California. After a description of the factors evaluated, twenty pages of tabular matter list ninety-seven varieties, probable parentage, originator, state and date of origin and characteristics.

The April issue of the Brooklyn Botanical Garden Record contains the twenty-seventh annual report, covering the year 1937. In its 150 pages are many interesting items of miscellaneous information. Of particular value to those interested in chestnut trees is the report of Arthur Harmount Graves on chestnut breeding work in 1937, covering eleven pages. Progress is continuing in the search for hybrids that may be resistant to the chestnut blight.

Growers interested in the culture of strawberries, either for fruit or plants, will find much valuable material on the subject in a recent publication of the

British Ministry of Agriculture and Fisheries—Bulletin No. 95, titled "Strawberries," by C. H. Oldham, N. D. H. While there is considerable space given to the growing practices in various sections of England and the varieties may not be familiar, there are many references to experimental work conducted with reference to improving yields, strains, etc., that should be worth noting here. Discussed in detail are methods of production, including stocks; soils and manuring; cultivation, including planting, deblossoming, preparation for harvesting and factors affecting crops; harvesting and marketing, including picking, receptacles and cultivation after harvesting; production of early strawberries, including the use of glass-houses and frames, and insect and disease control. The publication is available through the British Library of Information, 270 Fifth avenue, New York; its cost is 80 cents per copy.

"Crop Production in Frames," bulletin No. 65 of the Ministry of Agriculture and Fisheries of the British government, uses twenty-nine pages for a historical introduction and descriptions of types, construction and uses of frames and cloches. The remainder of the 74-page pamphlet describes cultural practice for the crops usually grown in England.

SEE THE SEED IN WINDO-BAG.

In his effort to get the gardening public to appreciate the value of good-quality lawn grass seed, instead of cheap mixtures likely to contain considerable inert matter, Fred S. Radway, of the I. L. Radwaner Seed Co., New York, has patented the Windo-bag. This is a green bag of close mesh having a cellophane window about four inches square. This is covered by an apron of the same material as the bag, the upper edge so treated that it may be stuck in place to cover the window.

Up-to-date information
on germinating

TREE & SHRUB SEEDS

Dr. L. C. Chadwick's articles on

"Improved Practices
in Propagation by Seed,"

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Write for free Tree and Shrub Seed Catalogue containing flower and vegetable seeds attractively priced.

North Dakota Seeds

JUNIPERUS SCOPULORUM

(Cleaned seed if preferred)
Also other tree seeds.
Orders taken for 1938 seed of a beautiful Forget-me-not, *Mertensia lanceolata*, and other flowering plants.

E. C. MORAN,

Medora, N. D.

SEED SPECIAL

White Delphinium Summer Cloud

A strong growing white that comes close to 100 per cent true from seed.
1/4 oz. 80c; oz., \$2.50; 1/2 lb., \$8.00
Special for present only.

Ask for complete seed catalogue.

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BOOKS

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and any others on
horticultural subjects
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THE AMERICAN NURSERYMAN

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Ask for circular of horticultural books.

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Shrubs, Vines, Climbers, Ferns,
Bog Plants, Orchids,
Lilies and Bulbous Plants, Herba-
ceous Perennials, Nursery-Grown.

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STURDY PLANTS READY for
QUICK SHIPMENT**

Gardens of the Blue Ridge are head-
quarters for native American plants.
Over 45 years' practical experience
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My Spring Catalogue Is Ready

Complete descriptions of varieties,
list of sizes, with prices that should
be attractive to every gardener. I
can supply first quality plants in
almost any quantity.

Introductory Offers Delivered

50 Native Lilies, assorted, 1st size.	\$6.65
50 Native Trilliums, asst., 1st size.	3.35
10 Mertensia Virginica, 1st size.	1.45
10 Jack-in-the-pulpit.	1.50
10 Dutchman's-breeches.	1.00
10 Yellow Trout Lily.	1.00
10 Blue Crested Iris.	1.50
10 Cardinal Flower.	1.50
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10 Pink Lady's-Slipper.	2.00

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PEACH and SHADE TREES,
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GRAPEVINES, CURRANTS,
STRAWBERRIES**
General line of Small Fruit plants
Trade list sent on request
**L. J. RAMBO'S WHOLESALE NURSERIES
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●STRAWBERRY PLANTS

New Ground Grown, healthy strong plants.
Millions of them and quick service.
\$1.50 per 1000 Satisfaction Guaranteed

**JOHN LIGHTFOOT
BIRCHWOOD, TENN.**

PEONIES

All types, including Tree Peonies

**The Cottage Gardens
Lansing, Mich.**

Kerria Japonica (Flore-Pleno), strong
2 1/4-in., \$10.00 per 100. **Pyracantha La-**
landii, fine type; cutting raised; 2 1/4-in.,
\$10.00 per 100. **Jasminum Floridum**,
strong 2 1/4-in., \$5.00 per 100. **Pome-**
granate, dwarf ornamental; 2 1/4-in.,
\$5.00 per 100. **Lantana Texanum**, orange
yellow; stands 10 degrees below zero
here; fine item; 2 1/4-in., \$6.00 per 100.
This is all A-No. 1 stock with strong root
system.

C. E. MAJORS, THE FLORIST, Denison, Tex.

STUDENT GARDENERS GRADUATE.

Eight student gardeners received
their certificates for the completion of
the 2-year science course at the New
York Botanical Garden April 26.

Col. J. E. Spingarn, America, N. Y.,
a member of the board of managers of
the garden, made the principal address,
and the certificates were presented by
Joseph R. Swan, president of the gar-
den.

Four members of the class have been
serving as student gardeners at the
garden during the past two years or
more. One is now employed on the
regular gardening staff, and one has
accepted a position elsewhere. Another,
Fraser MacCartney, has been selected
as an exchange student to spend a year
at the Royal Botanic Gardens, at Kew,
near London. He will sail for England
about July 1. The other four members
of the graduating class are young pro-
fessional gardeners who are employed
on private estates or in commercial
fields.

This is the fifth graduation ceremony
to be held since the first class of stu-
dents completed the 2-year course in the
spring of 1934. Subjects which they
have studied include systematic botany,
plant morphology, plant physiology,
plant breeding, plant pathology, ento-
mology, and soils and fertilizers in their
science course.

NEW PLANT PATENTS.

The following plant patents were is-
sued April 19, 1938, according to in-
formation from Rummel, Rummel &
Woodworth, Chicago patent lawyers:

No. 272. Rose. H. B. Brookins, Orchard Park,
N. Y., assignor to Jerry Brookins, Inc., Orchard
Park, N. Y. A new and distinct variety of hybrid
tea rose plant, characterized by its prolific growth
and winter-blooming habit, accompanied by the
free production on long stems of blooms of novel
form, substance and color.

No. 273. Carnation. Adolphe F. J. Baur, In-
dianapolis, Ind., assignor to Baur-Steinkamp &
Co., Indianapolis. A new variety of carnation,
characterized particularly by its strong and vigor-
ous growth, its strong calyx and its large bloom
of distinctive color, which color is assumed early
in the flower's development.

No. 274. Carnation. Adolphe F. J. Baur, In-
dianapolis, Ind., assignor to Baur-Steinkamp &
Co., Indianapolis. A variety of yellow carnation
characterized particularly by its exceptionally
strong calyx, its heavier and stronger growth and
its larger blooms, with relatively large number
of petals as compared with known yellow var-
ieties.

No. 275. Carnation. Russell Engle, Kokomo,
Ind., assignor to Tom Knipe, Kokomo, Ind. A
new variety of carnation, characterized particu-
larly by its freedom and continuity of blooming,
its strong and vigorous growth resulting in long
strong stems, its tough nonsplitting calyx, its
unusually broad leaves and its large blooms of a
distinct color.

No. 276. Hydrangea. John H. Kluis, Boskoop,
Netherlands, assignor to Joseph S. Merritt, Dun-
dalk, Md. A variety of hydrangea, characterized
particularly by its earliness of bloom, freedom
of production of large, compact flower trusses of
heavy substance and deep pink color, the ease
with which color of blooms can be changed to
blue by acid application to roots, and the foliage
of unusually heavy substance and quantity.

A NEW company at St. Paul and Min-
neapolis, Minn., has been formed by four
graduates of the College of Forestry,
University of Minnesota. Under the
name of the Northwest Forestry Co.,
professional services in silviculture will
be offered. Each member of the firm is
a specialist in his respective line. Vin-
cent W. Bousquet represents physiology;
Norman E. Borlang, pathology; A. E.
Anderson, entomology, and John Gleason
Miles, forest management. Clinton Turn-
quist, who will shortly join the concern,
has announced that several large orders
have come in for landscaping and tree
surgery work.

May Surplus

250 Improved Mastodon Ever-
bearers, \$1.80;

500, \$2.50; 1000, \$4.25;

5000, \$20.00; 10,000, \$35.00.

100 Eldorado Blackberries, \$1.50.
1000, \$10.50.

First-class Plants Guaranteed.

**WESTHAUSER NURSERIES
SAWYER, MICH.**

Grape Cuttings and Vines a Specialty

FREDONIA, Portland, Sheridan,
Lutie, Lucile, Green Mountain,
Campbell's Early.

Many other varieties. Write for
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RASPBERRIES
ANDREWS NURSERY
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Wholesale Growers of
Grapevines, Currants,
Gooseberries, Blackberries
and Raspberries

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Social Security Rules

Statement Regarding Family Employment Important to Numerous Small Concerns in Horticultural Field

As in the horticultural field several members of one family, including women and children, are sometimes employed in the business, the social security tax measures regarding the amount due under such conditions should be carefully studied. Under title VIII of the act, which imposes a tax upon employees and employers, there is no special exemption for the wife or children who are employed under the husband or father or vice versa. If the wife's or children's work comes under the heading of one of the other exemptions named in the title, of course, the case is different. Exemptions named under this title include agricultural labor, domestic service in a private home, casual labor, service on a vessel documented under the laws of the U. S. or any foreign country, service for federal or state governments, service for nonprofit literary, religious, scientific, charitable or educational organizations and wages for a person over 65 years of age. This means that the tax must be paid by employees and employers in cases where the wife or children are employed by the husband or father or vice versa, unless there is some other source of exemption.

Under title IX of the social security tax, wives and children employed by husbands or fathers or vice versa are specifically exempted, providing the children are under 21 years of age. The tax imposed by title IX is an excise tax on employers of eight or more individuals for a total of twenty or more days a year, each day being in a different week.

The board of internal revenue has recently issued a statement in response to requests for advice as to whether services performed for A by his wife and minor son constitute employment under the taxing provisions of the act. The board release is as follows:

"It is stated that A owns and operates a wholesale establishment wherein six individuals are regularly employed in addition to A's wife and minor son. His wife, who keeps the books for the establishment, usually works from 8 a. m. until 4 p. m., which hours are observed by the other employees of A. As

remuneration for her services, she is paid x dollars per week, which is the prevailing rate for the type of work in which she is engaged. It is further stated that A's minor son comes to work regularly each Saturday morning. His services consist of sweeping the floors, arranging the merchandise, delivering orders and performing such other duties as are required from time to time. As remuneration for his services, he is paid y dollars each week, which is the prevailing rate for the services he performs.

"Section 907(c), title IX, of the act provides in part as follows: The term 'employment means any service * * * except—(4) Service performed by an individual in the employ of his son, daughter or spouse, and service performed by a child under the age of 21 in the employ of his father or mother.'

"In view of the specific exception accorded family employment under the above quoted provision of title IX, the services performed by A's wife and son do not constitute employment within the meaning of that title. Inasmuch as only six other individuals are employed by A, he is not an employer as defined in section 907(a) of the act, and therefore is not liable for the tax imposed by section 901 thereof.

"Since there is no specific exception accorded family employment under title VIII of the act, services performed by an individual for a member of his family constitute employment if such individual is in fact an employee and such services are not otherwise excepted under section 811(b). An individual is an employee within the meaning of title VIII of the act if the relationship between the person for whom services are performed and the individual who performs such services is as to those services the legal relationship of employer and employee. (Article 3, Regulations 91; article 205, Regulations 90.)

"In determining whether the legal relationship of employer and employee exists in the case of family employment for the purpose of title VIII of the act, consideration must be given to certain rights and duties arising out of the family relationship. A taxable employ-

ment does not necessarily exist in a case where a member of a family performs such service for another member as the latter has the right to expect of him due solely to the existence of the family relationship. However, where one member of a family is regularly engaged in performing service for another member thereof in the business of the latter and receives remuneration therefor, such individual is an employee within the meaning of title VIII of the act. Furthermore, whether the legal relationship of employer and employee exists in such cases must be determined under the federal law and not under the state law.

"In view of the foregoing, it is held that A's wife and son are employees within the meaning of title VIII of the social security act, since they are engaged regularly in performing services for A in the business conducted by him and are duly remunerated therefor. It may be stated, however, that the value of the board and lodging furnished by A to his wife and son are not to be included in the computation of taxable wages, since A is otherwise obligated to support his wife and child."

SIMPLIFIED REPORTS.

A marked reduction in the number of employer reports required by the United States Treasury Department in connection with the administration of federal old-age insurance will be effected through a new form which combines tax returns and wage reports, the social security board announced April 18. The new form not only simplifies the reporting required of employers, but helps the government in its record keeping.

The new quarterly form, known as SS-1a, takes the place both of the monthly tax return and of the 6-month information return previously filed by employers for 1937. On this one form employers will hereafter report all the information previously given on monthly tax returns, form SS-1, and 6-month information returns, forms SS-2 and SS-2a. Payment by employers of their taxes and their employees' taxes will be made quarterly when the new form SS-1a is filed.

Under the federal old-age insurance system, employers are required to report each employee's name, account number and wages. This information is transmitted by the bureau of internal revenue to the social security board,

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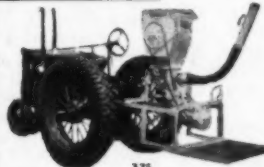
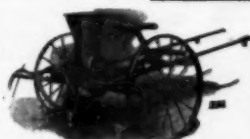
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where it is recorded in a social security account maintained for each employee for use in figuring the amount of the employee's old-age insurance benefits.

The first return on the new form was to be filed for the first quarter. The return for January, February and March, was to be filed with local collectors of internal revenue not later than April 30 to avoid a penalty for late filing. Other quarterly returns for 1938 on this form will be due on or before July 31, October 31 and January 31, 1939.

The new method of reporting was worked out by the bureau of internal revenue and the social security board to simplify the work of employers in reporting. The board pointed out this is especially important for operators of small establishments who usually do their own bookkeeping. Returns for 1937 from over 1,700,000 employers showed that about ninety-five per cent had twenty or less employees. Many had only one or two employees. With this method of reporting, tax returns and wage reports will be made out at the same time. On the new form, employers will list each employee's wages for the quarter. The total of wages paid to all employees can be quickly determined, and the amount of taxes can be easily computed from this total.

The new form provides space for reporting the wages of twenty employees. For employers who have more than twenty employees a continuation sheet, known as form SS-1b, is provided. Employers who have not received form SS-1a or who find they need the continuation sheet can obtain these forms from local collectors of internal revenue.

Simplification of the government's work will result from use of the new form, since tax returns and wage reports will cover the same period and be filed on the same form, and thus the two reports must agree. The work of checking tax returns against wage re-

ports by the bureau of internal revenue will be lessened, and correspondence with employers to reconcile differences will be practically eliminated.

MEMORIAL TO SCHMIDT.

The township of Milburn, N. J., is erecting a living memorial to Frank M. Schmidt, long a highly respected member of the American Association of Nurserymen and an ardent, sincere, untiring and unselfish worker for the association's affairs, both local and national. No more fitting a memorial to his memory could be planned by his friends than a planting in Taylor park, Milburn, of the trees and shrubs which he, himself, so loved. It is hoped that this memorial to Mr. Schmidt and in lesser degree to the branch of horticulture which he so ably represented will receive the proper support. Individual contributions should be forwarded directly to F. P. Craig, Short Hills, N. J.

BUSINESS RECORDS.

Fredonia, N. Y.—A voluntary petition in bankruptcy was filed in the federal court at Buffalo, N. Y., April 21 by Milton E. Roesch, owner of the West Hill Nurseries. Individually and as operator of the nursery business, Mr. Roesch listed liabilities of \$21,942.47 and assets of \$18,065.98. The first hearing was set for May 6.

CATALOGUES RECEIVED.

[In writing for a copy of any of the catalogues reviewed below, please mention that you saw it described in The American Nurseryman.]

D. Hill Nursery Co., Dundee, Ill.—Folder as wholesale price list of lining-out and balled and burripped evergreens, also a few deciduous varieties. The firm's book of evergreens is mentioned.

Mount Arbor Nurseries, Shenandoah, Ia.—Wholesale bulletin No. 4 is dated April 23 and offers fruit stock, small fruits, deciduous material, including seedlings; shrubs, vines, hedging,

evergreens, roses, perennials and alpinas, spring bulbs, packaged plants and nursery supplies. There is an index.

C. E. Burr & Co., Manchester, Conn.—Wholesale trade list, dated April 23, presenting evergreens, fruit stock, shrubs, including lilacs and roses, and a considerable list of perennials. Shenandoah Nurseries, Shenandoah, Ia.—Lake's bulletin No. 3 is dated April 23. With sixty-two pages counting the index the offerings embrace fruit stock, ornamental and shade trees, shrubs, vines, hedging, evergreens, roses, perennials, spring bulbs, cartoned plants and nursery supplies. There are several illustrations.

Native Gardens of Eastern Washington, Spokane, Wash.—Several mimeographed sheets listing evergreen shrubs, flowering shrubs and perennials, including rock garden material, all the stock being native. Also printed folder offering five shrubs, which include ocean spray (Holodiscus discolor) and Oregon grape.

W. A. Toole, Baraboo, Wis.—"Hardy Plants for the Home Garden" offers native ferns, Wisconsin wild flowers, herbs, hardy perennial and rock plants and native shrubs and small trees suggested for wild life sanctuaries. Accompanying the printed catalogue of twenty-eight pages and illustrated covers is a mimeographed sheet suggesting how to use various herbs in cookery.

Willis Nursery Co., Ottawa, Kan.—Printed catalogue of twenty-four pages and stiff paper covers as wholesale price list dated April 12. Shrubs, hedging, shade trees, evergreens, including some broad-leaved; roses, vines, hardy perennials, spring bulbs, water plants, lining-out stock, forest seedlings and fruit stock are all listed, also nurserymen's supplies. There is an index.

Towson Nurseries, Inc., Towson, Md.—Intended for the home owner, a book of 112 pages describes the stock grown by the firm and suggests its use, pointing the remarks with many, many fine photographs of landscaped grounds. There are planting suggestions for various situations and purposes, including one of plants that give autumn color. There is also an index. Prices are quoted in a separate booklet. Among the material offered are evergreens, deciduous trees and shrubs, vines, fruits, roses, perennials, bulbs and stock for water and rock gardening.

Ferndale Nursery, Ashok, Minn.—Illustrated booklet, as wholesale trade list, of evergreens, hardy ferns, rockery plants, including natives, and perennials. Roses, other shrubbery, deciduous trees and tree seeds are also offered.

Herbst Bros., New York, N. Y.—Besides tree and shrub seeds, "Seeds for Nurserymen" presents some flower and vegetable seeds and also lawn mixtures. For delivery starting in fall are seeds of gardenias and strelitias from South Africa.

Rhode Island Nurseries, Newport, R. I.—A pocket-size booklet of twenty-four pages is the wholesale price list, with all the stock enumerated alphabetically. There is also a short list of lining-out stock, including a number of azaleas, and there are offers of supplies.

Atlantic Nurseries, Inc., Berlin, Md.—Surplus stock list for the trade, of deciduous tree and shrubs, vines, roses, evergreens and fruits.

Flower Festivals

Numerous Events Celebrate Flowers and Gardens in Many Localities During the Spring Season

Interest in gardening is promoted nowadays by many other agencies than commercial firms in the horticultural field. These include so-called festivals of various flowers in many states. Besides a view of blooms at their best, these events provide a variety of entertainment for visitors and tours of private estates which the general public does not often get a chance to view.

Paramount among events of note in the southern part of the country was the azalea festival in Charleston, S. C., which began April 22. This is composed of parades, pageants and balls honoring the azaleas for which Charleston is famous. About twenty-five miles north of Charleston are the cypress gardens which were part of an old estate abandoned for a century, where tropical vegetation runs rampant. A few miles east of Charleston are the Middleton Place gardens, where are located the oldest formal gardens in America, dating from 1740. Three of the first four *Camellia japonica* plants introduced to America are still blooming there. The gardens are closed after May 1.

The week of April 25 to 30 was garden week in Virginia. Tours of many of the famous old Virginia estates were sponsored by the Garden Club of Virginia. They included such places as Kenmore, the home of Betty Washington Lewis, sister of George Washington, and Stratford, the birthplace of Robert E. Lee.

Maryland is holding its annual house and garden pilgrimage April 29 to May 8. Other events scheduled for late April were the apple blossom festival at Wenatchee, Wash., which was held when the blossoms were at their best; a daffodil show at Horticultural Hall, Boston, Mass., and the annual Florida tomato festival, April 27 to 30, at Ruskin, near Tampa, Fla.

Blossoms in May.

May finds the flower festivities in full swing, ushered in by the Lei day carnival at Honolulu, Hawaii, May 1. Flowers are in profusion of bloom there at that time. A queen of the carnival is chosen, with appropriate ceremonies. Early in May, dogwood and apple blossoms bloom in most eastern and southern states, and many towns hold festivals. Two far-removed cities hold their flower shows May 3—Coronado, Cal., and Macon, Ga. Tennessee's annual dogwood festival comes May 4 and 5, at Bristol, Tenn. Private estates at Dover, Del., are open to the public for a small fee May 7, which is called Dover's old home and garden day.

May 7 also marks the opening of the International Friendship Gardens, located just east of Michigan City, Ind., on U. S. highway No. 12. About fifty nations are represented here by gardens and exhibits. Over 1,000,000 tulips will be on display for the opening.

The annual iris festival and garden week takes place at Nashville, Tenn., May 8 to 15. Many private gardens, including those of the Hermitage, home

of Andrew Jackson, are open to the public. A pageant will be held May 13. Another Tennessee event is held May 10 to 15, the cotton carnival at Memphis. This consists of parades, river regattas, etc., in honor of King Cotton.

At the same time, the week of May 10, St. Joseph and Benton Harbor, Mich., hold Michigan's blossom festival. Routes are marked for motorists through the most beautiful parts of the section, famed for its orchards, and a queen's coronation and ball is staged.

One of the most colorful of middle western flower events is the tulip festival at Holland, Mich., which will be held May 14 to 22. The residents wear Dutch costumes, and there are pageants, daily tours of the tulip gardens and dancing on the village green.

At Gay Mills, Wis., the Kickapoo apple blossom festival will be held about May 15, or whenever the blossoms are at their height. Another Wisconsin event is the cherry blossom festival of Door county, about May 19 to 28, when thousands of cherry trees are in bloom.

A horticultural conference and flower show will be held at Norfolk, Va., May 16 to 22, sponsored by the Federated Garden Clubs of Norfolk. The

meetings take place May 16 and 17 at the Monticello hotel, and May 18 at the Cavalier hotel. The flower show, comprising the last days of the week, is at Lee park.

Philadelphia offers garden tours on Saturdays during May and early June. Several of the parks, especially Fairmount park, have interesting gardens. May 26 the annual flower mart is held at Rittenhouse square.

Lilac Festivals.

Lombard, Ill., near Chicago, is famous for its lilacs, which bloom about the middle of May. A week's festival is held when the lilacs are at their best. At Princeville, Ill., the Auten peony fields usually bloom late in May. There are 275 varieties labeled in the show garden.

A lilac festival is held at Rochester, N. Y., during the last part of May. The blossoms in Highland park are illuminated by floodlights at night.

Kentucky's Pine Mountain National park stages a mountain laurel celebration May 27 and 28, the high point being the crowning of the queen.

A rhododendron festival takes place at Port Townsend, Wash., May 27 and 28. Excursions are run from Seattle for the occasion, which includes a carnival.

Nova Scotia is the scene of an apple blossom festival, held about May 28 or 29 at Kentville.

June is featured by festivals in the northern and northwestern states. Oregon has a strawberry festival about

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A.N.7

June 4 or 5 at Lebanon, east of Albany. A huge strawberry shortcake is made and distributed free to visitors. The annual Portland rose festival comes early in June. It is one of the most famous in the country.

An unusual type of fiesta is that glorifying the potato blossom, which is celebrated along the eastern shore of Virginia, June 4 and 5, centering around Accomac.

Van Wert, O., will celebrate its seventh annual peony festival June 8 and 9. The principal events are tours of the gardens, both commercial and private; two parades of floats, and the coronation of the queen.

A major holiday in the south is the North Carolina rhododendron festival, held at Asheville, N. C., June 13 to 18. Rhododendrons bloom profusely then, especially in the Great Smoky Mountains National park. The fiesta is patterned on the New Orleans Mardi Gras, with a king and queen and a court composed of representatives of other states appointed by their governors. The pageant is woven around the mythical figure Rhodora, goddess of the rhododendron.

One of the most beautiful sections of Pennsylvania is the Poconos hills, in the eastern part of the state. A laurel festival is held here every year, the date this year tentatively set for June 1 to 18, with a dance at Buck Hill Falls June 18.

ROSE DAY AT CORNELL.

A field day to inspect the rose test garden at Cornell University, Ithaca, N. Y., will be held Saturday, June 25, the American Rose Society cooperating with the university. An inspection of the garden under the supervision of R. E. Christie, of the floriculture department, will start the day. R. C. Allen, also of this department, will cover "Experiments in Rose Growing," the morning session closing with a discussion of "Healthier Roses," by Prof. L. M. Massey, of the plant pathology department.

In the afternoon E. S. Boerner, head of the research department of the Jackson & Perkins Co., Newark, N. Y., will speak on "Rose Varieties Go Modern," while Dr. W. E. Blauvelt, of the entomology department at the university, will cover "Routing Rose Insects." "Gardening with Roses" will be explained by R. Marion Hatton, secretary of the American Rose Society, Breeze Hill, Harrisburg, Pa., the afternoon closing with an open forum in the rose garden, participated in by the visitors, the speakers already mentioned and Prof. E. A. White, head of the floriculture department.

NORTH JERSEY TRIP SET.

At the monthly meeting of the North Jersey Metropolitan Nurserymen's Association, April 14, routine matters were discussed. Chief in interest was the proposed trip to Washington, D. C., which was outlined in a recent issue. The dates for the trip were set as June 27 to 29, reports Secretary William Halley.

A DISPLAY room on Main street, Mount Vernon, Wash., has been rented by Eddie Nurseries, Inc., and is open two days a week for those wishing to see and purchase roses.

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Complete with 25 ft. spray hose; 10 ft. extension spray pipe; 1 three-way spray nozzle; 1 single spray nozzle.



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OBITUARY.

F. W. Smythe.

Frederick W. Smythe, landscape architect and president of Wadley & Smythe Florist, New York city, died April 14 at his home at Yonkers, at the age of 67. His death was caused by a cerebral hemorrhage.

Mr. Smythe, who handled the landscaping of the Rockefeller estate at Pocantico Hills, N. Y., was well known for his landscape and design work. Notable among his achievements were his designs at Saratoga, Belmont and Hialeah race tracks. He also designed the floral landscape for the Lincoln Memorial. Born in Chicago, son of the late William and Ruth B. Smythe, he entered the landscape business at the age of 13, assisting his uncle, Albert Wadley. Seven years later he became a partner in the firm and continued as sole member after the death of Mr. Wadley. The firm for many years had offices on Fifth avenue, opposite the New York public library. The firm maintains large nurseries on Long Island and at Newport, R. I., and has branch stores in the Waldorf-Astoria hotel, in New York, and at the Casino, at Newport, R. I.

Mr. Smythe was a member of the board of directors of the New York Republican Club and a member of the Wykagyl Country Club of New Rochelle. He is survived by his widow; a son F. W. Smythe, Jr., and a brother, Albert Smythe.

Leonard Barron.

Leonard Barron, editor of the Flower Grower magazine, died April 9 of pneumonia after an illness of less than two weeks. He was buried from his residence at Rockville Center, N. Y., April 12, when more than 100 members of the trade were present. Among the pallbearers were L. C. Bobbink, Rutherford, N. J.; W. A. Sperling, of the Stumpp & Walter Co., New York, and Eugene Boerner, of the Jackson & Perkins Co., Newark, N. Y.

Mr. Barron was born at Chiswick, England, sixty-nine years ago. His father was superintendent of the Royal Horticultural Society gardens, which were then located at Chiswick. His early horticultural experience was at the Chiswick Gardens and at Kew. He was on the editorial staff of the Gardeners' Chronicle in London for eight years.

He came to the United States in 1894 and took over the editorship of American Gardening magazine, succeeding Prof. L. H. Bailey. In 1905 he became managing editor of Garden Magazine and became editor-in-chief in 1911. He directed the garden activities of that magazine's direct successor, Garden & Home Builder, and as it is now called, the American Home. He also acted as advisory garden editor of Country Life, contributing freely signed and unsigned articles to both periodicals. He designed and planted the Country Life Press grounds at Garden City, N. Y., and had been horticultural advisor for Doubleday Doran books for many years. He had been editor of the Flower Grower magazine since January, 1937.

He was author of a number of books on horticultural subjects and had been a lecturer well known among garden clubs in almost every state of the Union and a judge at many flower shows. He was a former president of the American

Rose Society and of the American Delphinium Society. He was a charter member of the American Society for Horticultural Science and the last surviving member of the original incorporators of the Horticultural Society of New York. It was just last month that the gold medal of achievement was awarded to Mr. Barron by the Horticultural Society of New York for his services to horticulture and to the society.

Mrs. Louise B. Wilder.

Mrs. Louise B. Wilder, Bronxville, N. Y., a noted writer on horticulture, died April 20 in the Presbyterian hospital, New York. She was 66 years old. Mrs. Wilder's one-acre garden had attracted visitors from all over the country, and she had succeeded in growing rare and exotic plants which it had been believed were not suited to this climate. Last year she was awarded the gold medal for horticultural achievement by the Garden Club of America. Mrs. Wilder was a member of the Royal Horticultural Society of England, the Massachusetts Horticultural Society, the Horticultural Society of New York and the Garden Club of America and was a member of the advisory council of the New York Botanical Garden.

Timothy J. Buckley.

Timothy J. Buckley, 67, Rochester, N. Y., nurseryman, died April 21 at his home. He had been ill only a short time. Mr. Buckley and his brother, John Buckley, founded a nursery at Rochester and operated it together for many years previous to John Buckley's death in 1931. Timothy Buckley had retired from business about a year ago. Funeral services were held April 25. His widow, Mrs. Julia A. Buckley; a son, T. Raymond Buckley, and two daughters survive.

THE contract for the landscaping of the Grant Union high school, one of the largest and best equipped institutions of learning in northern California, has been let to the Hick Nursery, Sacramento. The school is located in Del Paso Heights near North Sacramento. The work is now in progress.

CLASSIFIED ADVERTISING

Peonies: Tree and Herbaceous, best varieties. Oberlin Peony Gardens, Sinking Springs, Pa.

Aucuba Japonica Variegata. 2 1/4-in. pots, well established, 74c each. Goldsboro Nursery, Goldsboro, N. C.

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PLAN FLORIDA PROGRAM.

May Convention at Tampa.

Two meetings were recently held to form plans for the seventeenth annual convention of the Florida State Florists' Association, May 16 and 17, in the Hillsborough hotel, Tampa. The board of directors met March 28 at Tampa, with C. Leslie Whipp, secretary, presiding. The following committees were appointed: Hotel and banquet, Ed. Nelson, chairman; Harold Tinman, Joseph Powell, Carl F. Cowgill, Mrs. Marion Carey and Angelo Greco; flower arrangement, Mrs. Harold Tinman, chairman; Mrs. Walter Fennell, Miss Margaret Cortina, Mrs. Clara Young Rodriguez, Mrs. C. C. Chambers and Camilla Morris; publicity, H. A. Dickinson, of the Tampa chamber of commerce; Jack O. Holmes, Harold Tinman, Ed. Nelson and Arthur Larson.

Out-of-town directors present were: John Dubois, Bradenton; F. L. Durand, Leesburg; C. Leslie Whipp, Jacksonville, and Fred Wesemeyer, Clearwater.

Another meeting of the state association was held at Tampa April 4, being called to order by President Jack O. Holmes. Out-of-town members present were: John Dubois, Bradenton, head of the florists' group; Mr. and Mrs. Otis Tyler, and Mrs. E. J. Reed, Lakeland.

Convention High Lights.

The following convention plans were made: Sunday night, May 15, there will be a supper and get-together party held in the Top o'Town dining room of the Hillsborough hotel, followed by a supper-dance at the hotel. May 16, at 9 a. m., the convention will open. Several speakers from the University of Florida, Gainesville, will be present, including Prof. Harold Hume and Dr. Wilmon Newell. Professor Hume will be the principal speaker, talking on soil conditions and improvements; he will also conduct a soil clinic.

An elaborate school, the biggest one ever put on by the association, will be held Monday evening and Tuesday afternoon, May 16 and 17. This will be the first time in the history of the association that everyone will be able to attend the school. Monday evening, the school will feature corsages and other small pieces. Tuesday the school will start at 1:30 and continue until 6 p. m. All kinds of designs will be demonstrated.

The different units of the association—fern growers', bulb growers', florists', nurserymen's, and others—will hold their meetings Monday afternoon, May 16. There will also be a meeting of members of the Florists' Telegraph Delivery Association then.

Another high light of the convention will be the banquet, to be held Monday evening, at the Columbia Spanish restaurant, Tampa. This is the largest and best Spanish restaurant on the west coast. It will be an unusual affair. Waiters and employees will be attired in Spanish costumes, and the dining room and surroundings will be decorated to suit the occasion. After supper, a dance will be enjoyed in the open patio, with music furnished by an internationally known Spanish orchestra. There will be Spanish entertainment.

Tuesday morning, the program will include unfinished business and election of officers.

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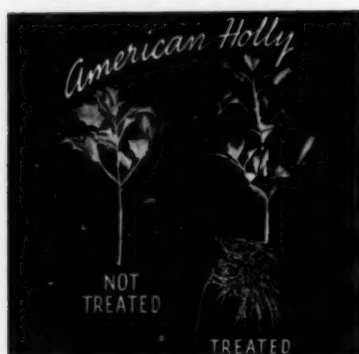
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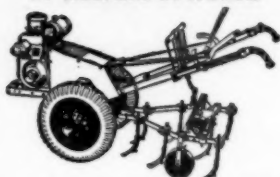
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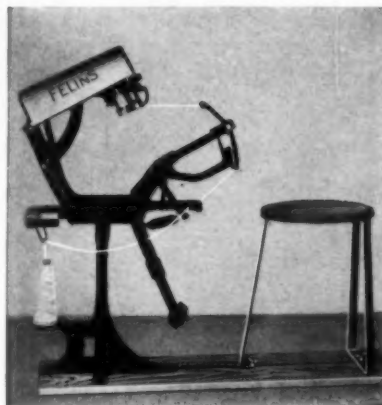
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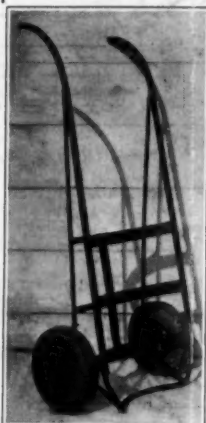
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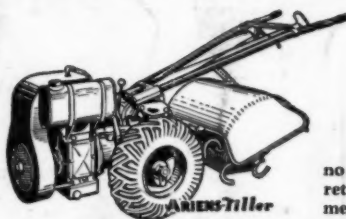
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